

Study Guide Contents

CHAPTER 1	1
General Multiple-Choice Questions	1
Multiple-Choice Based on Textbook's End-of-Chapter Questions	4
Answers and Explanations	6
CHAPTER 2	8
General Multiple-Choice Questions	8
Multiple-Choice Based on Textbook's End-of-Chapter Questions	14
Answers and Explanations	16
CHAPTER 3	19
General Multiple-Choice Questions	19
Multiple-Choice Based on Textbook's End-of-Chapter Questions	26
Answers and Explanations	28
CHAPTER 4	32
General Multiple-Choice Questions	32
Multiple-Choice Based on Textbook's End-of-Chapter Questions	35
Answers and Explanations	37
CHAPTER 5	39
General Multiple-Choice Questions	39
Multiple-Choice Based on Textbook's End-of-Chapter Questions	46
Answers and Explanations	48
CHAPTER 6	51
General Multiple-Choice Questions	51
Multiple-Choice Based on Textbook's End-of-Chapter Questions	59
Answers and Explanations	60
CHAPTER 7	64
General Multiple-Choice Questions	64
Multiple-Choice Based on Textbook's End-of-Chapter Questions	76
Answers and Explanations	81
CHAPTER 8	88
General Multiple-Choice Questions	88
Multiple-Choice Based on Textbook's End-of-Chapter Questions	93
Answers and Explanations	98

ECN211 Multiple Choice Study Guide Contents

CHAPTER 9	103
General Multiple-Choice Questions	103
Multiple-Choice Based on Textbook's End-of-Chapter Questions	105
Answers and Explanations	108
CHAPTER 10	110
General Multiple-Choice Questions	110
Multiple-Choice Based on Textbook's End-of-Chapter Questions	114
Answers and Explanations	120
CHAPTER 11	124
General Multiple-Choice Questions	124
Multiple-Choice Based on Textbook's End-of-Chapter Questions	136
Answers and Explanations	142
CHAPTER 12	150
General Multiple-Choice Questions	150
Multiple-Choice Based on Textbook's End-of-Chapter Questions	156
Answers and Explanations	160
CHAPTER 13	165
General Multiple-Choice Questions	165
Multiple-Choice Based on Textbook's End-of-Chapter Questions	175
Answers and Explanations	179
CHAPTER 14	186
General Multiple-Choice Questions	186
Multiple-Choice Based on Textbook's End-of-Chapter Questions	194
Answers and Explanations	196
CHAPTER 15	201
General Multiple-Choice Questions	201
Answers	207

Chapter 1

General Multiple-Choice Questions

- 1.1 Economics is the study of
- A. all businesses, including how they operate, why they exist, and how they affect us.
 - B. decisions that people must make because goods and services are limited.
 - C. how to save money, spend money, invest savings, and balance a checkbook.
 - D. the stock market, the bond market, and investment strategies.
 - E. big business and its impact on our lives.
- 1.2 In economics, the term "scarcity" refers to the fact that
- A. everything worthwhile costs money.
 - B. no society is able to produce enough to fully satisfy the desires of people for goods.
 - C. even in wealthy societies, like the United States, some people are poor.
 - D. sometimes shortages of a product result if its price is set too low.
 - E. in any urban area (city), there are people who have had healed wounds (leaving scars).
- 1.3 *Scarcity* means that
- A. we cannot have everything that we might want.
 - B. we have to make choices between the things we desire.
 - C. there are costs to just about any activity we undertake.
 - D. we must give up some things in order to obtain other things.
 - E. all of the above are correct.
- 1.4 Scarcity
- A. implies that some basic level of need is not being met.
 - B. is the same thing as poverty.
 - C. does not exist in wealthier countries.
 - D. all of the above.
 - E. exists as long as people do not have all of the goods that they want.
- 1.5 A recurring theme in economics is
- A. people have unlimited wants in the face of limited resources
 - B. there are unlimited resources
 - C. our country is rich; we just don't realize it
 - D. people have limited wants in the face of limited resources
 - E. people have unlimited wants in the face of unlimited resources
- 1.6 Which of the following is not scarce?
- A. A's in microeconomics.
 - B. Tender Porterhouse steaks.
 - C. Workout tapes.
 - D. Trash that no one wants.
 - E. Economics textbooks.
- 1.7 Because of scarcity
- A. decisions must be made about which goods will be produced or obtained.
 - B. some method must be created for deciding who will get a good and who will not be allowed to have it.
 - C. someone must decide the method or process for obtaining or producing each good.
 - D. all of the above.
 - E. none of the above.

- 1.8 What does the phrase "there is no such thing as a free lunch" mean?
- A. Individuals must always pay money for the food they eat.
 - B. No restaurant owner will provide food to patrons unless they pay her.
 - C. Restaurant owners act selfishly.
 - D. Consumption of any good requires that other goods be given up (foregone).
 - E. Lunch is the most expensive meal of the day.
- 1.9 Which of the following goods can the government provide for free (at no cost)?
- A. Health care
 - B. Education
 - C. National defense
 - D. Highways
 - E. None of the above
- 1.10 Competition
- A. is always wasteful.
 - B. exists in every society and every economy.
 - C. only exists when prices are used to distribute scarce goods.
 - D. is eliminated when goods are distributed by government.
 - E. only exists if markets and prices are not used to ration scarce goods.
- 1.11 We face costs when we have
- A. more than one option to choose between.
 - B. scarcity.
 - C. decisions to make.
 - D. any and all of the above.
 - E. none of the above.
- 1.12 Can economic theories be tested?
- A. No, since individuals will seldom respond in predictable ways.
 - B. Yes, since all individuals respond in the same ways to the same situations.
 - C. No, since the general behavior of a large number of individuals cannot be predicted.
 - D. Yes, since people will, on average, respond in predictable ways to changes in costs and benefits.
 - E. No, since theories cannot hold pencils or surf the internet.
- 1.13 Positive economic statements are
- A. purely opinion.
 - B. statements that make you feel good.
 - C. statements concerning what is true or what will happen.
 - D. statements about what ought to happen or what we want to happen.
 - E. statements that cannot be proven true or false by scientific investigation.
- 1.14 Normative economic statements are
- A. always true.
 - B. always false.
 - C. statements concerning what is true or what will happen.
 - D. statements about what ought to happen or what we want to happen.
 - E. statements that can be proven true or false by scientific investigation.
- 1.15 "Oil companies are evil" is an example of
- A. a positive statement.
 - B. a normative statement.
 - C. a ceteris paribus statement.
 - D. opportunity cost.
 - E. marginal thinking.

- 1.16. In economics, we often say that a particular event will occur "as long as other things stay the same." The condition that other things stay the same is also called
- A. ceteris paribus
 - B. marginal decision-making
 - C. incentives
 - D. opportunity cost
 - E. secondary effects
- 1.17 Economic theory assumes that people
- A. act in greedy and selfish ways, without regard for the welfare of others.
 - B. act without regard for their own interests.
 - C. are not motivated by self-interest.
 - D. are motivated by self-interest, but still might be concerned for the welfare of others.
 - E. are motivated entirely by the desire to help others.
- 1.18 Why does it make sense to assume that people are rational, if you want to predict their behavior?
- A. People are not guided by emotions when making decisions.
 - B. People who act in the way that best gets them what they want will tend to repeat that behavior, and will tend to learn from mistakes that they do make.
 - C. People never make mistakes, and tend to make the correct choices all of the time.
 - D. People always logically figure out what to do.
 - E. No individual ever behaves in a random, unpredictable manner.
- 1.19 Macroeconomics deals with
- A. only the decisions made by individuals, and their results.
 - B. only the decisions made by businesses, and their results.
 - C. mostly large scale decisions made by countries and governments, and their results.
 - D. only the decisions made by individuals, but not the results.
 - E. only the decisions made by businesses, but not the results.
- 1.20 Which kind of economics deals with issues such as unemployment, inflation, and economic growth?
- A. Macroeconomics
 - B. Microeconomics
 - C. Growth economics
 - D. Political economics
 - E. Aggregate economics

Multiple-Choice Based on Textbook's End-of-Chapter Questions

- T1.1 Is economics the same as business?
- A. Yes, because it studies money and how to get it.
 - B. No, because it studies more kinds of decisions than those made by business.
 - C. No, because it is offered by the Liberal Arts department, not the business department.
 - D. Yes, because it studies how to use resources to make products, and that's what business does.
 - E. No, because business decisions are not related to decisions studied by economics.
- T1.2 What is scarcity?
- A. It is the same as poverty.
 - B. It is a condition that only affects people in poor countries.
 - C. It is the universal condition that people want more of some things than they have or can have.
 - D. It is the conflict that arises between people.
 - E. It is the result of having too much of some things, like food.
- T1.3 Which of the following might be a scarce good?
- A. love.
 - B. faith
 - C. self-control.
 - D. none of the above.
 - E. all of A, B, C above
- T1.4 A scarce good
- A. does not exist.
 - B. is a good that can only be purchased with money.
 - C. is a good that can never be purchased with money.
 - D. is a good that is available in limited quantities, but is desired in greater quantities.
 - E. is always a non-physical good, such as love or friendship.
- T1.8 How does our society ration chocolate (most commonly)?
- A. It does not, since chocolate is not scarce.
 - B. Violence is used; whoever can subdue those with chocolate gets it.
 - C. Those who are most willing and able to pay money for it generally get it.
 - D. Those who are the fastest runners get it.
 - E. Those who get up early and wait in line get it.
- T1.9 Which method of rationing (distributing) passing grades in economics courses is most likely to lead to students trying to learn the subject?
- A. The highest grades are assigned to those students who pay the most money to get them.
 - B. The highest grades are assigned to students who do the most personal chores or favors for the professor.
 - C. The highest grades are assigned to students whom the professor likes the most.
 - D. The highest grades are assigned to students who can answer the most questions correctly on exams covering course material.
 - E. The highest grades are assigned to students who spend the most time studying or reading course materials.
- T1.10 Different people place different values on the same item or activity. One way to describe this is to say that
- A. people are stupid.
 - B. values are scarce.
 - C. values are normative.
 - D. ceteris paribus.
 - E. values are subjective.

- T1.12 In economics, when we say that people are rational, we mean that they
- A. never make mistakes.
 - B. try to get what they desire as best they can, given the limitations they face.
 - C. logically figure out what to do.
 - D. behave in a random, unpredictable manner.
 - E. always act in a selfish way, disregarding the feelings and desires of others.
- T1.13 What makes economics scientific?
- A. It tests theories against observations and modifies the theories if needed.
 - B. It uses numbers to measure things.
 - C. It involves the use of experiments.
 - D. It is a description of how things work.
 - E. It attempts to describe things in an objective manner, rather than just opinion.
- T1.15 What does *ceteris paribus* mean?
- A. "Scientific method."
 - B. "Rational thinking."
 - C. "Other things remaining the same."
 - D. "There is no such thing as a free lunch."
 - E. "Values are subjective."
- T1.18 Which of the following is a normative economic statement?
- A. Reducing the speed limit on U. S. highways to 55 m.p.h. would reduce the number of traffic fatalities each year.
 - B. Lower gasoline prices will decrease the amount of gasoline that consumers want to buy.
 - C. The cost and benefit of environmental policy is not important, since anything that protects the environment should be done, no matter the cost.
 - D. In a free society, some unemployment of workers is unavoidable.
 - E. Raising taxes on alcoholic beverages will reduce the number of fatalities resulting from drivers who are drunk or impaired
- T1.19 Which of the following is a positive economic statement?
- A. Reducing the speed limit on U. S. highways to 55 m.p.h. would waste people's time, and thus is a stupid idea.
 - B. Higher gasoline prices will have no effect on the amount of gasoline that consumers want to buy.
 - C. Protecting the environment is more important than protecting jobs or preserving some greedy notion of people's standard of living.
 - D. In a free society, unemployment of workers is undesirable.
 - E. Taxes on alcoholic beverages should be raised, so that there will be fewer fatalities from drivers who are drunk or impaired
- T1.20 Positive economics
- A. does not tell us what is good, or which policy is better, so it is worthless when making decisions.
 - B. can tell us which policy is better, since it deals with judgments of what is good and what is bad.
 - C. can help policymakers understand the results of their possible choices, even though it cannot provide values on which to base those choices.
 - D. can tell us which policy is better, but cannot help us predict the likely outcome of a policy.
 - E. can tell us the good effects that may come out of a policy, but cannot inform us of any possible bad effects.

Answers and Explanations

- 1.1 B. Economics studies all choices that people make because of scarcity. It is not just about business. It is also not about money or investments, although some ideas from economics can be applied to those decisions as well.
- 1.2 B. Scarcity is having less of at least some things than each of us desires.
- 1.3 E. Scarcity implies that we must choose some things over others, which means we face costs.
- 1.4 E. This is the definition of scarcity
- 1.5 A. This is another statement of what is meant by scarcity.
- 1.6 D. Things that no one wants are not scarce; scarcity is determined by desire as well as by things being difficult to obtain.
- 1.7 D. Answers A, B, and C are all restatements of the choices that must be made because of scarcity.
- 1.8 D. Consumption of every item requires that some other item is not consumed, or that its consumption is delayed. Costs may take the form of things other than money, such as time or having to put up with unpleasant company.
- 1.9 E. Providing any service or good requires that resources are taken away from other uses. The government takes money away from its citizens to pay for its activities, so private citizens have less to spend. Also, each dollar the government spends in one way cannot be spent on some other government activity.
- 1.10 B. Scarcity causes competition between users of a good or between different uses of a good.
- 1.11 D. Costs exist when obtaining one thing requires deciding to sacrifice another thing or things.
- 1.12 D. Testing a theory scientifically involves making a prediction of what will happen under specified circumstances, and observing if the predicted outcome occurs.
- 1.13 C. Positive statements are statements concerning facts or predicted outcomes. They are thus statements that can be tested. Even if the statement turns out to be untrue, if it can be put to some test as to its validity, it is positive.
- 1.14 D. Normative statements are statements of opinions; they cannot be tested.
- 1.15 B. Since evil is subjective (or a matter of opinion), the statement is normative.
- 1.16 A. *Ceteris paribus* is the Latin term for "other things being the same."
- 1.17 D. People are interested in (and respond to) the costs they will bear when they do something. People will be less willing or able to do something when the cost to them is increased, and more willing and able to do it if the cost to them is reduced. This is what is meant by self-interest. However, their motivation for doing what they do may still be to help others, so they need not be entirely selfish. Still, if helping others costs more, we are all less likely to do it than we are when it is easy.
- 1.18 B. When we assume that people are rational, we are simply assuming that most people, most of the time, will act in the way that gets them what they want. If they act irrationally, we cannot predict their behavior. Also, if they find ways of acting that don't work to get them what they want, they will either behave differently the next time they have a choice, or will be foreclosed from making many choices in the future.
- 1.19 C. Macroeconomics deals with large-scale decisions and their results. The actions of individuals and businesses are considered in the aggregate (as a whole) when studying macroeconomics.
- 1.20 A. Unemployment, inflation, economic growth, interest rates, and international trade are all studied in macroeconomics. Microeconomics deals with individual and business decisions. Some of the topics of microeconomics are important when studying macroeconomics as well, and vice versa.

- T1.1 B. Economics deals with all decisions, not just business decisions.
- T1.2 C. Scarcity affects everyone; we all want more of something than we have.
- T1.3 E. A scarce good is anything that someone somewhere wants more of. A, B, and C are desired by many people who can't obtain them, or haven't yet.
- T1.4 D. A scarce good is any good that is desired in greater amounts than people have; it is anything that someone somewhere wants more of.
- T1.8 C. Chocolate tends to go to those who are most willing to buy it from the store. This is at least mostly based on who values it the most.
- T1.9 D. If exam questions reflect the material in the course, then students will be rewarded for trying to learn enough to correctly answer as many questions as possible. While spending time reading the material may help in this (answer E), it is probably going to be important for students to focus their study time on those concepts that are not easiest or the most fun for them. Thus, merely spending a lot of time studying is not going to necessarily lead to mastering the material.
- T1.10 E. We say values are subjective because there is no right or wrong value. It's true that values are linked to normative statements, but that's not how we refer to different people having different values.
- T1.12 B. People have desires that they try to fulfill, and they do the best they can at it. This consistency allows us to understand them. Sometimes they desire to help other people, so they are not necessarily always selfish.
- T1.13 A. The essence of a science is to develop a theory, test the theory against observations, and then modify the theory as needed. While using numbers or remaining positive help in this, they are not the scientific method in themselves. Bookkeeping is not a science, for example. Using experiments is helpful, but also not necessary to be a science, since astronomy is a science, and does not use experiments.
- T1.15 C. Ceteris paribus is the assumption that other things are not allowed to change.
- T1.18 C. All of the other statements are statements that can be tested somehow (although D depends on the definition of a free society). C is the only statement that can't be tested, since it involves opinion, and is not trying to present a fact of any kind.
- T1.19 B. All other statements involve an opinion of some kind. B is probably not correct, but it is still a positive statement, since it can be tested.
- T1.20 C. Positive economic statements help decision makers predict what will happen when they take certain actions. Thus, positive economics tells them what to do to achieve some desired result.

Chapter 2

General Multiple-Choice Questions

- 2.1 Opportunity cost is
- A. the cost incurred when one fails to take advantage of an opportunity.
 - B. the value of all of the options not chosen when a choice is made.
 - C. the cost of increasing the number of available opportunities.
 - D. the undesirable aspects of an option.
 - E. the highest valued option forgone as a result of choosing an alternative.
- 2.2 The opportunity cost of an action is
- A. the sum of all of the possible things that could have been done instead.
 - B. the best thing(s) that must be given up in order to take that action.
 - C. the money that must be paid to take that action.
 - D. the time that must be spent to take that action.
 - E. zero, since it represents opportunities that have been missed.
- 2.3 The opportunity cost of an action is
- A. the highest valued thing(s) that must be given up when the action is undertaken.
 - B. the total of all things given up when the action is undertaken.
 - C. the bad results that happen as a result of the action.
 - D. A and C
 - E. all of the above.
- 2.4 Which of the following is correct?
- A. The opportunity cost of an action includes the unpleasant results of the action.
 - B. The opportunity cost of an action is the highest valued alternative thing or things that must be given up when the action is taken.
 - C. The opportunity cost of waiting in the dentist's office includes the fear and boredom involved in waiting.
 - D. The opportunity cost of washing your car includes the boredom and sore muscles you receive as a result.
 - E. The opportunity cost of a decision is just the money that decision will cost you.
- 2.5 The opportunity cost of producing an additional Whiskey Flowers music video is
- A. the profit to be made from producing a Whiskey Flowers music video
 - B. the retail price of a Whiskey Flowers music video
 - C. the cheapest method of producing a Whiskey Flowers music video
 - D. the sacrifice of other goods necessary to get another Whiskey Flowers music video
 - E. the sum of the marginal and average cost of producing a Whiskey Flowers music video
- 2.6 Which statement is true?
- A. The opportunity cost of washing your car is the discomfort and drudgery involved.
 - B. The value of time is not a component of opportunity cost.
 - C. An individual should consider only monetary costs when making consumption decisions.
 - D. It costs just as much to go out to dinner on Valentine's Day or Mothers' Day as it does on Groundhog's day .
 - E. For housing construction workers, the opportunity cost of taking the day off to see a movie may be lower on a rainy day than on a sunny, dry one.

- 2.7 The statement that "there is no such thing as a free lunch" implies that...
- A. Individuals must always pay money for the food they eat.
 - B. No restaurant owner will provide food to patrons unless they pay her.
 - C. There are some choices or actions that have no cost, but eating lunch is not one of them.
 - D. Every action or choice entails an opportunity cost of some kind.
 - E. Lunch is usually the most costly meal of the day.
- 2.8 The epigram "time is money" expresses, in part, the concept of
- A. opportunity cost
 - B. comparative advantage
 - C. specialization
 - D. efficiency in production
 - E. the margin
- 2.9 A travel agent wishes to inform her customers about the costs of flying to Chicago rather than taking Amtrak (the train). The fare on the train is about half of the lowest-price coach airline ticket. A plane travels at 500 mph on average, a train at 50 mph. What can you tell her?
- A. Since the fare is higher to fly, it is always more costly for everyone to fly.
 - B. Since some people like to take planes, they might prefer to fly, but it is obviously less costly to take a train.
 - C. Rich people like to fly because they can afford the higher fare.
 - D. The train will be less costly to ride, since it is subsidized by taxpayers.
 - E. People who value their time highly will find it less costly to fly.
- 2.10 The opportunity cost of building a new sports arena in Phoenix would be
- A. the money expense involved in building the arena.
 - B. the necessary increase in taxes to build the arena.
 - C. the highest-valued bundle of other goods that must be given up in order to build the arena.
 - D. the loss of business revenues from traffic jams caused by people using the new arena.
 - E. the loss of revenues which now go to current facilities, but which will be spent instead at the new arena, if it is built.
- 2.11 "Since I am going to start school soon, I will have to give up my current job." This statement most clearly reflects
- A. comparative advantage
 - B. opportunity cost
 - C. gains from technology
 - D. failure to economize
 - E. laziness
- 2.12 Pat says, "If I didn't go to the movie tonight, I would save \$7.00 and spend the evening studying." The opportunity cost to Pat of going to the movie is
- A. \$7
 - B. dependent on how good the movie is
 - C. an evening of studying
 - D. \$7 plus an evening of studying
 - E. nothing
- 2.13 The *Wall Street Journal* reported that during a recession, many people seek more training and education (including MBA degrees). An economic explanation for this phenomenon might be that
- A. the opportunity cost of education is lower during a recession.
 - B. it is easier to find a new job during a recession.
 - C. it is easier to find a school during a recession.
 - D. during a recession, schools lower their academic standards for graduating.
 - E. during a recession, faculty are more sympathetic to their students.

- 2.14 The Arizona Cardinals give away complimentary tickets to several charity groups. Among those receiving the gift tickets are kids from a local orphanage, volunteer athletic coaches from the Boys Clubs of America, students from Phoenix College SAM Council, and doctors from the Arizona Heart Institute. What can you say about the cost of giving these tickets away?
- A. In all cases, the tickets are free, so it costs nothing to give them away.
 - B. The cost of giving the tickets away is lowest for the group least likely to pay to see a game.
 - C. The cost of giving away tickets to a particular game does not depend on how many tickets would have been sold for that game.
 - D. The cost of giving the tickets away is highest for the group least likely to pay to see a game, since that group may not use the free tickets.
 - E. The cost of giving away free tickets is the same, no matter who gets them.
- 2.15 A hospital decides not to use its coronary care facilities to give a 95-year old woman a heart transplant (which may not be successful). Instead, it uses the coronary care facilities to save a 42-year old man who has just had a massive heart attack. The hospital seems to be concerned with
- A. men instead of women
 - B. money instead of lives
 - C. opportunity costs
 - D. the young instead of the old
 - E. corporate profits instead of people
- 2.16 Retired people are more likely than working people to travel by bus, train, or car. Working people more often choose to travel by airplane. An economic explanation of this might be
- A. working people like airplanes.
 - B. retired people like buses and trains because they're more old-fashioned.
 - C. working people own stock in airlines while retired people probably don't.
 - D. working people have higher opportunity costs associated with their time than retired people do.
 - E. retired people live closer to bus stations, while working people live near airports.
- 2.17 Which of the following is true?
- A. The cost of attending school is lower if the number of high-paying jobs for college-age workers increases.
 - B. Your cost of attending school does not depend on such personal things as your marital status or the number of children that you have.
 - C. The cost of attending school would fall for many people if a new law made it illegal to work until the age of 25.
 - D. The cost of attending school is the same for everybody.
 - E. The cost of attending school is tuition, the price of books, transportation expenses, and other fees, all added together.
- 2.18 When economists speak of "marginal," they mean
- A. a substitute for butter
 - B. Marge and Al, a couple living in Mesa
 - C. the same thing as "scarcity"
 - D. trivial or unimportant
 - E. a small increment or addition
- 2.19 Marginal choices or decisions
- A. involve additions to (or subtractions from) the current conditions.
 - B. are bad or poor choices.
 - C. always involve money.
 - D. are the same as average choices.
 - E. never involve money.

- 2.20 By "the margin" or "marginal" we in economics will usually mean
- A. the white space down the side of a piece of paper.
 - B. a small incremental change.
 - C. something used instead of butter.
 - D. the same thing as "merging" (in Texas).
 - E. none of the above
- 2.21. The *marginal opportunity cost* to you of taking this quiz at this moment
- A. must include the cost of enrolling in the class.
 - B. includes the cost of buying the textbook.
 - C. includes the alternative use of my computer for a time.
 - D. includes the cost of missing the David Letterman Show last night so you could study.
 - E. all of the above are correct.
- 2.22 Homer plans to get his car washed and buy gasoline. He discovers that if he buys seven gallons of gasoline at a price of one dollar per gallon, the price of a car wash is \$4.99. However, if he buys eight gallons of gasoline (he has room in his tank for that much), the car wash price goes down to \$4.00 (all prices are tax included). The marginal cost (in terms of money) of the eighth gallon of gasoline is
- A. one dollar
 - B. one-eighth of a dollar
 - C. \$.99
 - D. one cent
 - E. one-seventh of a dollar
- 2.23 Which of the following might correctly be considered when determining the cost of coming to class today?
- A. the price of the textbook.
 - B. the money paid as tuition for school.
 - C. the value of being somewhere else.
 - D. all of the above.
 - E. none of the above
- 2.24 Which of the following would increase the amount of studying you do for the next quiz in this course?
- A. The knowledge that you need to get at least a B in this course to enter your chosen major at ASU.
 - B. An announcement that the quiz will not count toward your final grade in the course.
 - C. An unanticipated opportunity to vacation with your friends this weekend.
 - D. An announcement that all students in the class will get an A, regardless of how well they perform.
 - E. Long homework assignments are given in all of your other classes, and they are all due next week.
- 2.25 Using marginal thinking, if you were deciding whether to purchase a second television set, you would compare
- A. the total benefits expected from the two televisions with the cost of both televisions.
 - B. the additional benefits expected from a second television with the cost of the two televisions.
 - C. the additional benefits of the second television with the cost of the second television.
 - D. the dollar cost of the two televisions with the time you will lose watching the two televisions.
 - E. the dollar cost of the second television with the dollar cost of the first television.

- 2.26 A friend in your economics class tells you that she thinks she could get an A on the next quiz if she studies for three hours over the next week, but she is sure she can get a C without studying. Thus, she is not going to study. Does that make sense?
- A. No, she should try for the A, since it is within her reach.
 - B. It makes sense only if she actually values a C more than an A.
 - C. It makes sense only if she would get no utility by raising her grade from a C to an A.
 - D. It makes sense if she has something else that she really wants to do with the three hours, no matter how much more utility she might get by raising her grade from a C to an A.
 - E. It makes sense if she would get less utility by raising her grade from a C to an A than she would get from other activities that she could spend the three hours on.
- 2.27 Suppose the government canceled a building project after spending \$3 billion on it already. The \$3 billion cannot be recovered. If the estimated value of the benefit of the completed project would have been \$25 billion, then the cancellation makes economic sense...
- A. only if the remaining cost of the project exceeds \$22 billion.
 - B. only if the remaining cost of the project exceeds \$25 billion.
 - C. only if the remaining cost of the project exceeds \$28 billion.
 - D. only if the remaining cost was more than the \$3 billion already spent.
 - E. under no circumstances, since \$3 billion had already been spent, and the project must be finished to get any benefit from that cost.
- 2.28 Which statement is true?
- A. The value of every human life is infinite, thus cost is irrelevant when deciding whether to provide an individual with life-saving treatment.
 - B. In some places, hiring women to cut grass by hand (using knives) might make more sense than cutting the grass by other means, if the women had little else to do with their time.
 - C. A business that owns its own warehouse building does not have to be concerned with the rental rates for warehouse space, since it can use its own warehouse for free.
 - D. The cost of living in a house that you own consists of the taxes, utilities, and mortgage payment.
 - E. The cost of washing your car is the boredom and drudgery involved in the task.
- 2.29 Economics embraces the idea that
- A. changes in the costs and benefits that a person faces will have a predictable influence on the choices that person makes.
 - B. if one person gains in an economic activity, then another person must lose something.
 - C. if a good is supplied to an individual who is pure of heart, its production will not consume valuable scarce resources.
 - D. good intentions lead to sound policy and desirable results.
 - E. people should only look at the money aspects of the decisions they make.
- 2.30 As the personal benefit (utility) of choosing an option increases,
- A. a person is more likely to choose that option.
 - B. a person is more likely to become confused.
 - C. a person is less likely to choose that option.
 - D. there will probably be no effect on a person's likelihood of choosing that option.
 - E. the opportunity cost of choosing that option increases as a result.
- 2.31 When people try to get a benefit in the way that involves the least sacrifice of their limited resources, we call it
- A. stupid
 - B. ceteris paribus
 - C. economizing
 - D. secondary effects
 - E. marginal thinking

- 2.32 When economists say that a person is economizing, they mean that the person is
- A. making choices to gain benefits at lowest possible cost.
 - B. making a lot of money.
 - C. purchasing goods that are generic, cheap or of low quality.
 - D. learning how to run a business more effectively.
 - E. wearing "power clothes" to impress the boss and get a raise.
- 2.33 In Los Angeles, the value of land is high compared to Phoenix (an acre of land in L.A. is about 3-6 times as expensive as in Phoenix, depending on the exact area). Most other things are about the same price in L.A. as in Phoenix. This situation explains why
- A. it is hotter in Phoenix than in L.A. in the summer.
 - B. shopping centers in L.A. are more likely to have multilevel parking structures than those in Phoenix.
 - C. there are fewer 70mm-Dolby™ theaters in Phoenix than in L.A.
 - D. per-person sales of ice cream are higher in Phoenix than in L.A.
 - E. the L.A. newspapers use more space on stories involving the entertainment industry.
- 2.34 Information that might help a person make correct choices is always
- A. easy to obtain.
 - B. costly to obtain.
 - C. impossible to obtain.
 - D. freely available.
 - E. unnecessary, if one is studying economics.
- 2.35 The consequences of a choice or decision which are not immediately experienced, but which appear with the passage of time are called
- A. ceteris paribus
 - B. marginal decision-making
 - C. incentives
 - D. opportunity cost
 - E. secondary effects
- 2.36 Joe Sixpack drinks a six-pack of beer because he enjoys the flavor and he likes the lightheaded feeling it gives him. Several hours later, Joe has a "hangover" from drinking so much. The hangover Joe gets is an example of
- A. secondary effects
 - B. ceteris paribus
 - C. marginal decision-making
 - D. incentives
 - E. opportunity cost
- 2.37 Sometimes, safety laws cause people to make choices that result in them being less safe. For example, a law requiring safety seats on airplanes for small children may increase airplane ticket prices, thus causing parents to drive rather than fly. If driving is less safe than flying, then more children may end up being hurt. This is an example of
- A. Marginal thinking
 - B. Secondary effects
 - C. Subjective values
 - D. Reasonable doubt
 - E. Ceteris paribus

Multiple-Choice Based on Textbook's End-of-Chapter Questions

- T2.1 Which of the following is true?
- A. A reduction in the temperature from 100 degrees to 80 degrees will make it less likely that a person will take his dog for a walk.
 - B. A student who does not like getting up early is more likely to skip her 8:00 class than she would if the same class met at 11:00.
 - C. A reduction in the number of exam questions that relate directly to the text will make it more likely that a student will read the text.
 - D. An increase in the price of tomatoes will make a person more likely to buy tomatoes.
 - E. An increase in the price of soybeans will make farmers less likely to plant additional soybeans.
- NOTE: on a quiz or the final, two of the answers may be changed from "more likely" to "less likely" (or vice versa), altering which is the correct answer.
- T2.2 When the government provides a good or service, such as health care, education, national defense, or public road, is there a cost?
- A. Yes, but only if the government charges users for the good or service, such as when it charges college students tuition for enrolling in classes, or charges drivers tolls for using roads.
 - B. Yes, since the money spent and resources used to provide every good or service could have been used for other things.
 - C. Yes, but only if the government raises taxes to provide the good or service.
 - D. No, since the government does not have to worry about making a profit, it does not have a cost in providing any good or service.
 - E. No, if the good or service was not going to be provided by anyone else, or if it would have been produced in inadequate amounts.
- T2.3 Which of the following might correctly be considered when determining the cost of reading a chapter in your textbook?
- A. the price of the textbook.
 - B. tuition for school.
 - C. the value of reading a book for another class instead.
 - D. the expense of driving to school to buy the textbook.
 - E. all of the above
- T2.4. Other things remaining the same, if the tax exemption for dependent children is raised in the U.S., what will tend to happen over time?
- A. The birth rate will fall, as having children will cost less.
 - B. The birth rate will fall, as having children will have a lower benefit.
 - C. The birth rate will rise, as having children will cost less.
 - D. The birth rate will rise, as having children will have a lower benefit.
 - E. The birth rate will be unaffected, since no one considers the money costs and benefits when deciding to have children.
- T2.5 A student in economics will study for economics
- A. as long as she can.
 - B. until she knows everything.
 - C. very little.
 - D. as long as the marginal opportunity cost exceeds the marginal benefit of doing so.
 - E. as long as the marginal opportunity cost is less than the marginal benefit.

- T2.6 Which costs are relevant when a current decision is being made?
- A. All costs, including those faced in the past.
 - B. Only costs paid or faced in the past.
 - C. Only the money costs.
 - D. Only the marginal opportunity costs.
 - E. Only the costs that might be faced in the distant future, but that are not affected by the decision.
- T2.7a Government agencies have required that new cars include many safety features before they can be sold. These requirements, such as side impact air bags, increase the cost and price of new vehicles. A secondary effect of these requirements might be that
- A. drivers with new, safer cars will be less cautious.
 - B. drivers of older cars will be less cautious, since getting in an accident means they can move up to a new car.
 - C. drivers of older cars, which are less safe, will be better able to trade them in to buy safer and more expensive new cars.
 - D. drivers of new cars will be extra careful, so that they can get the full advantage of the safety features.
 - E. drivers who do not desire the new safety features will be just as likely to purchase new cars as they otherwise would have been.
- T2.7b Government agencies have required that new cars include many safety features before they can be sold. These requirements, such as side impact airbags, increase the cost and price of new vehicles. A secondary effect of these requirements might be that
- A. drivers contemplating purchases of newer cars will tend to buy them with more expensive options, since they are paying more for the car already.
 - B. drivers of older cars will be less cautious, since getting in an accident means they can move up to a new car.
 - C. drivers of older cars, which are less safe, will keep them longer, since purchasing a new car is more expensive.
 - D. drivers of new cars will be extra careful, so that they can get the full advantage of the safety features.
 - E. drivers who do not desire the new safety features will be just as likely to purchase new cars as they otherwise would have been.
- T2.8 Individuals who economize are
- A. behaving irrationally.
 - B. letting money rule them.
 - C. saving for a rainy day.
 - D. trying to foretell the future.
 - E. making choices in an effort to achieve a goal in the least costly way.

Answers and Explanations

- 2.1 E. This is the definition of opportunity cost. It is the highest valued thing that must be given up to get or do another thing.
- 2.2 B. The opportunity cost of an action is expressed in terms of the best of the other opportunities given up rather than the amount of time or money spent.
- 2.3 A. The opportunity cost is not all of the things given up, just the most desirable. Also, it does not include the undesirable results that may be received.
- 2.4 B. This is the definition of opportunity cost.
- 2.5 D. The opportunity cost is the highest valued thing that could have been produced instead, and thus must be given up or sacrificed.
- 2.6 E. If the amount of work that could be done on a rainy day is small compared to a dry one, then the workers give up less to take time off on a rainy day. Opportunity cost is measured in terms of what else you could do or have.
- 2.7 D. The word “free” implies that nothing has to be given up. Even something that costs no money probably entails some cost in terms of alternative activities that must be given up. Thus, every action has an opportunity cost.
- 2.8 A. Giving up time to do something often means giving up spending that time to earn money. If earning money would be the highest valued alternative use of the time, then the money lost is the opportunity cost of spending the time to do something else.
- 2.9 E. The opportunity cost is the highest valued thing that could be done instead. If traveling takes more time, the other uses of the time may be quite important to some travelers.
- 2.10 C. If building the new arena costs as much as several other valuable projects taken together, then this “bundle” of projects, if it is the highest-valued alternative, is the opportunity cost.
- 2.11 B. If going to school means not having time to work, then (if working and earning money is the most valuable thing that could be done instead), the job given up is the opportunity cost.
- 2.12 D. To be more precise, it is the best thing that the \$7 could have been spent on instead of the movie, as well as the best alternative use of the time (which seems to be studying). Here, the cost involves alternative ways to spend both time and money.
- 2.13 A. If a person does not have a good job that he or she must give up to attend school, the opportunity cost is lower of going to school.
- 2.14 B. If a ticket is given to someone who might pay to see a game, the Cardinals would be giving up the money they might have earned by selling the ticket instead of giving it for free. Also, if the team gives away seats to a game for which there are many unsold tickets, it costs less than if they gave away tickets for a game that they might be able to “sell out.”
- 2.15 C. The opportunity cost of treating one patient might be that we give up the chance to save another patient’s life. When hospitals and emergency rooms decide to treat one patient, they must consider the other patients they could be treating instead. This process is called “triage.”
- 2.16 D. People who have few other things to do with their time (and thus low opportunity costs of spending time) won’t mind trips that take a long time as much as other people might.
- 2.17 C. Attending school takes time. If a person is not allowed to work, at least one alternative use of the time is eliminated, and thus the opportunity cost of attending school is lowered. The money expense of enrolling in school is just one small part of the (opportunity) cost of being a student. Also, a person can enroll and buy books without actually attending classes (which is really what the question asks).
- 2.18 E. Marginal can be thought of as a little change or addition. It is that piece affected by your decision.

- 2.19 A. Marginal is the piece you are deciding about, which could mean you are deciding about doing a little more or less of some thing.
- 2.20 B. Margin means the edge or the separation between one thing and another. In economics, its the separation between what you can change (or decide about) and what you can't or don't need to worry about.
- 2.21 C. To take a quiz, you use your computer to take that quiz instead of doing something else on it. The highest valued use for the computer during the time that it takes for a quiz is the marginal opportunity cost. While not actually in the answer, taking the quiz also involves giving up other uses for the time needed to complete the quiz. However, studying, buying the book, and enrolling in class are separate actions from taking the quiz, so you wouldn't want to count them (they are not marginal).
- 2.22 D. This question is asking how much more it costs to buy eight gallons of gas with a car wash than it costs to buy seven gallons of gas with a car wash. The difference would be the cost of the eighth gallon. To buy the eight gallons of gas costs \$8.00 (one dollar times eight), and the car wash costs \$4.00, if Homer gets it with the eight gallons, for a total of \$12.00. To buy seven gallons of gas costs \$7.00 (one dollar times seven) and the car wash costs \$4.99, if Homer only buys seven gallons, for a total of \$11.99. Thus, getting the eighth gallon only makes a one-cent increase in the total.
- 2.23 C. Being in class means you can't be anywhere else, so you are giving up being in the next best place you could have been. Also, deciding to come to class is a marginal decision, separate from buying the textbook or even paying to enroll in class (since you could enroll in class without attending).
- 2.24 A. You will study more if either the benefits of studying are increased, or if the cost of studying is reduced. B and D will reduce the benefit, C and E will raise the opportunity cost of studying for the next quiz in this course.
- 2.25 C. Marginal thinking involves separating the change you are contemplating, and weighing the costs against the benefits of that change.
- 2.26 E. Every activity or decision only makes sense as long as the marginal utility or expected marginal benefit is greater than the marginal cost. If a higher grade is of little benefit to a student, and if there are lots of other things she could be doing with her time, it doesn't make sense to study beyond a certain point.
- 2.27 B. Finishing the project would make sense if the marginal cost was less than the marginal benefit. If the marginal cost exactly equaled the marginal benefit, it still might be OK to finish. Since the project was not finished (it was canceled), the marginal cost must be more than the marginal benefit. The (marginal) benefit of finishing the project is \$25 billion; since the question doesn't say otherwise, assume there is no benefit if the project is not finished. So, canceling the project makes sense if the marginal (remaining) cost is more than \$25 billion. The \$3 billion already spent cannot be changed; it is separate from the cost of finishing, which is the marginal cost.
- 2.28 B. In each of the statements, understanding of opportunity cost is vital. For A, it must be remembered that while the benefit of a saved life may be infinite, the opportunity cost of using resources to treat one person may be giving up using those resources to instead save many others. For B, if some women have little else to do with their time, either because they lack skills, education, job experience or job opportunities, they may have very low opportunity cost. If so, hiring them to cut the grass may cost less than using machines and skilled workers. This would be especially true in poor countries without minimum wage laws. In fact, the lawn of the Taj Mahal in India is trimmed in this way. In the case of C, a business that uses its own warehouse space is giving up the opportunity to rent the space to other businesses. For D, the cost of living in a house you own actually is the highest valued alternative use of the house (such as renting or selling it). For E, the cost is the highest valued thing you could do instead (with the time, water, soap and wax). The boredom is a result (and might thus reduce the benefit of washing the car yourself) but it does not involve something given up.

- 2.29 A. Higher costs make an option less likely to be chosen, while higher benefits make it more likely to be chosen.
- 2.30 A.
- 2.31 C. Economizing is looking for the lowest cost option among alternative ways of obtaining a benefit.
- 2.32 A.
- 2.33 B. Since land is more expensive in Los Angeles, it is costlier to use, and economization will lead to less land being used (when possible) for things like parking. A similar situation can be seen in how land is used in downtown areas compared with suburbs. This is why there are high-rise office buildings downtown, but offices of only one, two or three stories in outlying areas.
- 2.34 B. Useful and reliable information is scarce, and thus acquiring it has an opportunity cost.
- 2.35 E. Results that are not the intended ones are secondary effects.
- 2.36 A. Since Joe did not drink the beer to get the hangover, and may not have even considered that he would get one, the hangover is a secondary effect.
- 2.37 B. A requirement of child safety seats on airplanes would have the primary intention of making airplane travel safer. However, if other things would indirectly change, such as the price of airplane tickets and thus the decision to use other transportation, these effects on other choices are secondary effects. Secondary effects can be predicted in some cases (such as this one). In fact, the FAA does not require child safety seats on airplanes precisely because of them. Studies show that the lives saved would be far outweighed by the lives lost by families choosing less safe modes of travel.
- T2.1 B. Raising the cost or lowering the benefit of an option will reduce the likelihood of a person choosing it. Other things equal, the cost of attending the earlier class is higher if a person doesn't like getting up early. Note that on an actual quiz or exam, the various statements might be changed ("more likely" might be changed to "less likely", and visa versa), so don't memorize that the student is the correct answer.
- T2.2 B. Even if the government provides a good or service, the resources used to provide it cannot be used to provide other things.
- T2.3 C. Since reading the textbook will take time, the highest valued alternative thing you might do with the time is the opportunity cost. Reading the book is a separate action from buying the book; reading the book is an additional or marginal thing you do after buying the book.
- T2.4 C. Lowering the cost or increasing the benefit of having children will make it easier for some families to support more children.
- T2.5 E. Every activity or decision follows this rule.
- T2.6 D. The marginal opportunity costs include those things given up as a result of the option selected. They do not include costs from past decisions and costs that may or may not be encountered when (other) future decisions are made.
- T2.7a A. Feeling safe and protected might produce less caution by at least some drivers. Statistical studies actually show that this effect is significant--drivers of safe cars get into more accidents than drivers of unsafe cars do.
- T2.7b C. The greater cost of replacing old cars with new ones will make car owners less willing and able to do it. Also, if the cars cost more to start with, buyers may not be as able to afford some other options or features on the new cars they do buy (so A is incorrect). Front airbags add \$800 to \$1000 to the price of a new car, and side airbags add about double that amount.
- T2.8 E. Economization is simply choosing the lowest cost method of achieving a desired goal.

Chapter 3

General Multiple-Choice Questions

- 3.1 If Jones drives from Phoenix to New Orleans, it takes her three days longer than flying would. Thus, if she drives on her vacation, she will have to take three more days off than she would if she flies (she is self-employed). She figures she could earn \$80 per day (after taxes) on each of those days. She enjoys driving, and considers the value to her of being able to see the scenery along the way to be about \$50 (total). She will drive if the airline fare
- A. is more than \$50 above the expense of driving.
 - B. is more than \$80 above the expense of driving.
 - C. is more than \$130 above the expense of driving.
 - D. is more than \$190 above the expense of driving.
 - E. is more than \$240 above the expense of driving.
- 3.2 Right after natural disasters (such as earthquakes) the prices of certain emergency items (such as flashlights) rise, while the prices of other items (such as Rolex watches) do not. One possible reason for this is that
- A. the sellers of luxury items, such as Rolex watches, are less greedy than the sellers of flashlights.
 - B. the opportunity cost of selling a flashlight to any one person has gone up, while this is not the case with watches.
 - C. the people who sell flashlights are able to force people to buy the flashlights against their wills.
 - D. the value of keeping a flashlight for one's own use has gone down because of the disaster.
 - E. if a person buys a flashlight, only the seller benefits, but if a person buys a watch, both the buyer and seller benefit.
- 3.3 During popular televised sports events, advertising rates are very high. This reflects
- A. the expense of electricity and cameras used in broadcasting the events.
 - B. the high fees that have been paid for the rights to broadcast such events.
 - C. nothing but corporate greed.
 - D. the situation that the opportunity cost of selling advertising time to one advertiser is the amount some other advertiser is willing to pay for the time.
 - E. the high salaries of the players in sports today.
- 3.4 Elizabeth now makes \$200 an hour as a psychiatrist. She hires a full time receptionist to answer phones and schedule appointments for \$10 an hour. Elizabeth discovers that she can do the scheduling twice as fast as the secretary. Should Elizabeth answer all of her phone calls and do her own scheduling?
- A. No, since Elizabeth would be wasting her medical school investment if she did the scheduling.
 - B. Yes, since it will cost her less money if she does her own scheduling and fires the receptionist.
 - C. Yes, since she can schedule appointments twice as fast as the receptionist, she will save \$36,000.
 - D. Yes, since Elizabeth is faster at setting up appointments, she should do all the scheduling herself.
 - E. No, since Elizabeth would be giving up earnings as a psychiatrist if she took the time to do the scheduling, it would not be efficient for her to do the scheduling.

- 3.5 Efficiency in production means that
- A. there is no scarcity .
 - B. the only way to get more of a good produced is to use more resources.
 - C. to make more of one good, society must sacrifice some of another good, or use more resources.
 - D. there exists a way to produce more of one good without giving up some of another good.
 - E. no trades exist that would make one person better off without making another person worse off.
- 3.6 Efficiency in production is said to exist only if
- A. it is not possible to produce more of one good without producing less of another.
 - B. it is not possible to make one person better off without making another worse off.
 - C. it is possible to produce more of one good without producing less of another.
 - D. it is possible to make one person better off without making another worse off.
 - E. scarcity does not exist.
- 3.7 Which of the following best describes the implications of the law of comparative advantage?
- A. Total output might be expanded by specialization and trade, but some individuals will end up worse off than if the specialization and trade had not occurred; some people will be "losers."
 - B. Buyers of goods gain at the expense of sellers about half the time.
 - C. Sellers of goods gain at the expense of buyers about half the time.
 - D. All of the above.
 - E. None of the above.
- 3.8 If each person sells goods for which she has the greatest comparative advantage in production, and buys those goods in which she has the least comparative advantage (or a comparative disadvantage), then
- A. total output available to each person can be expanded by trade and specialization.
 - B. total output might be expanded, but only if some individuals are net "losers."
 - C. buyers of goods will gain at the expense of sellers.
 - D. sellers of goods will gain at the expense of buyers.
 - E. total output will increase if and only if persons with a comparative advantage in the production of a good also have an absolute advantage in its production.
- 3.9 Specialization
- A. occurs if producers have some degree of comparative advantage in producing some items.
 - B. leads to inefficient use of resources.
 - C. occurs if one producer has an absolute advantage in production of some items.
 - D. raises the prices of goods.
 - E. occurs if all producers have absolute advantages in producing at least one item.
- 3.10 Which statement is false?
- A. It would usually be economical for a lawyer to do her own typing if she could type better than her secretary.
 - B. An avid football fan would probably find the opportunity cost of going for a drive during the Super Bowl game quite high.
 - C. The United States, which has much land that is good for growing grain, but very little land that is good for growing sugar cane, can gain from exporting wheat to other countries and buying sugar from them.
 - D. All economies face scarcity.
 - E. The principle of comparative advantage implies that individuals and nations specialize in production of those things for which they are the lower-cost producers.

- 3.11 If the people of Italia all concentrate on producing only food, they could produce 8 tons a year of food. If the people of Italia concentrate on producing only clothing, they can produce 16 tons a year of clothing. On the other hand, the people of Slavia could produce 10 tons of food if they concentrated exclusively on food production, or they instead could produce 30 tons of clothing if they concentrated on clothing production. Which statement is true?
- A. Italia has a comparative advantage in producing neither food nor clothing.
 - B. Slavia has a comparative advantage in producing clothing.
 - C. Slavia has a comparative advantage in producing both food and clothing.
 - D. Trade could benefit Italia, but not Slavia.
 - E. Trade could benefit Slavia, but only if it harmed Italia.
- 3.12 Calvin and Hobbes are stranded in an alternative universe. They can produce and consume two goods, "X" and "Y." Calvin's production possibilities are such that he can produce 2X or 2Y per day. Hobbes can produce 6X or 3Y per day. Which of the following will maximize the consumption alternatives available for Calvin and Hobbes?
- A. Calvin should specialize in Y and Hobbes in X, but no trade should be allowed.
 - B. Both individuals should strive for self-sufficiency, since this will maximize output.
 - C. Both individuals will have to be self-sufficient, since Calvin can offer nothing to Hobbes at a lower cost than Hobbes can obtain it himself.
 - D. Hobbes should specialize in X and Calvin in Y, and trade can occur.
 - E. Calvin should specialize in X and Hobbes in Y, and trade can occur.
- 3.13 For a while, John rented rooms in a duplex that Jane owned. During that time, each of them did their own dishes and vacuuming. Now, they are married and live together in the duplex. Jane does the vacuuming, while John does the dishes. They seem to spend less time doing these chores than when they each did both jobs. This is evidence of
- A. choices that are inconsistent with economizing behavior.
 - B. gains from technology.
 - C. gains from self-sufficiency.
 - D. the law of comparative advantage.
 - E. absolute advantage.
- 3.14 Bart can mow one lawn in an hour or do twenty dishes. Lisa can mow two lawns in an hour or do 40 dishes. These figures imply that
- A. Bart has a comparative advantage in doing dishes.
 - B. Bart has a comparative advantage in mowing lawns.
 - C. Bart has an absolute advantage in doing dishes.
 - D. Bart has an absolute advantage in mowing lawns.
 - E. None of the above.
- 3.15 Gilligan can produce 75 coconuts or 50 fish with in one week (working very hard). The Skipper can produce 125 coconuts or 100 fish in a week (also working very hard). If they meet on Gilligan's Island, is there a potential for trade between them?
- A. Yes, Skipper will specialize in coconuts, and Gilligan will specialize in fish.
 - B. Yes, Skipper will specialize in fish, and Gilligan will specialize in coconuts.
 - C. Yes, Skipper will specialize in both coconuts and fish.
 - D. Yes, Skipper and Gilligan will both specialize in fish.
 - E. No, since Skipper is better at producing both goods, no trade (or specialization) will occur.

In the town of Acme, almost everyone consumes some of two goods, narf, and zort. The only three producers capable of producing narf and zort are Larry, Maurice, and Pinky. They can produce either narf or zort according to the following table, which shows the production possible assuming that each entire day is spent producing only one good.

Producer	Narf per day	Zort per day
Larry	210	70
Maurice	160	40
Pinky	50	25

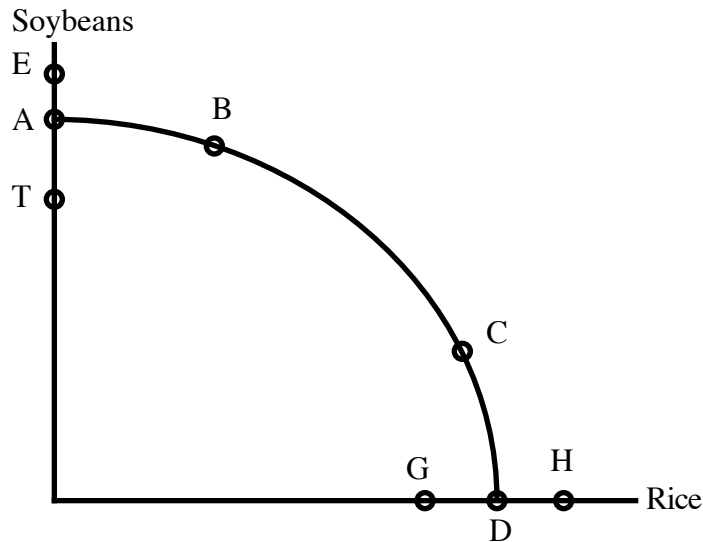
- 3.16 According to the table above, which producer would have the greatest comparative advantage in producing narf?
 A. Larry B. Maurice C. Pinky
 D. Either Larry or Maurice, but we need more information to say for certain.
 E. Either Larry or Pinky, but we need more information to say for certain.
- 3.17 According to the table above, which producer would have the greatest comparative advantage in producing zort?
 A. Larry B. Maurice C. Pinky
 D. Either Larry or Maurice, but we need more information to say for certain.
 E. Either Larry or Pinky, but we need more information to say for certain.
- 3.18 According to the table above, which producer would have an absolute advantage in producing narf?
 A. Larry B. Maurice C. Pinky
 D. Either Larry or Maurice, but we need more information to say for certain.
 E. Either Larry or Pinky, but we need more information to say for certain.
- 3.19 According to the table above, which producer would specialize in producing narf?
 A. Larry B. Maurice C. Pinky
 D. Either Larry or Maurice, but we need more information to say for certain.
 E. Either Larry or Pinky, but we need more information to say for certain.
- 3.20 According to the table above, which producer would specialize in producing zort?
 A. Larry B. Maurice C. Pinky
 D. Either Larry or Maurice, but we need more information to say for certain.
 E. Either Larry or Pinky, but we need more information to say for certain.
- 3.21 According to the table above, which good will Pinky specialize in producing?
 A. narf B. zort C. both
 D. Either narf or zort, since he is good at producing both.
 E. Neither.
- 3.22 According to the table above, which good will Larry specialize in producing?
 A. narf B. zort C. both
 D. Neither. He will produce narf or zort or a mixture of both, depending upon consumer desires.
 E. Neither. Since Larry is such a poor producer, no one would benefit from trading with him.
- 3.23 Suppose that the producers find it worthwhile to produce some zort and some narf each day, which consumers buy. Using the table above, if each narf sells for \$1.00, what is the highest money price that zort can be selling for?
 A. \$3.80 B. \$4.00 C. \$3.00 D. \$3.00 E. \$1.00

Below is a table showing the annual production possibilities open to the U.S. and Japan, if both countries work to maximum capacity to produce either automobiles OR beef:

Country	Automobiles	Beef
U.S.	7 million	70 million head
Japan	5 million	20 million head

- 3.24 The table above suggests that
- A. the U.S. should sell both beef and autos to Japan.
 - B. Japan should sell both beef and autos to the U.S.
 - C. Japan should sell beef to the U.S.
 - D. Japan should sell autos to the U.S.
 - E. Japan and the U.S. have no reason to trade with each other.
- 3.25 The table above suggests that
- A. the U.S. has a comparative advantage in producing autos.
 - B. Japan has an absolute advantage in producing autos.
 - C. Japan has a comparative advantage in producing beef.
 - D. Japan has a comparative advantage in producing autos.
 - E. Japan has an absolute advantage in producing beef.
- 3.26 The production possibilities curve
- A. shows all of the production combinations of two goods that are possible under all circumstances.
 - B. shows all of the curves of two goods that are possible.
 - C. shows all of the curves that can be produced.
 - D. shows all of the production combinations of two goods possible using available resources and technology.
 - E. shows the ideal technology that is possible with current resources.
- 3.27 A production possibilities curve indicates that when resources are being used efficiently
- A. more of one good can be produced only if less of another good is produced.
 - B. more of one good can be produced only if its price is lowered.
 - C. producing more of one good results in greater production of other goods.
 - D. more of one good can be produced without producing less of other goods.
 - E. it will be impossible to produce more in the future.
- 3.28 A production possibilities curve indicates that when resources are being used inefficiently
- A. more of one good can be produced only if less of another good is produced.
 - B. more of one good can be produced only if its price is lowered.
 - C. producing more of one good results in greater production of other goods.
 - D. more of one good can be produced without producing less of other goods.
 - E. it will be impossible to produce more in the future.
- 3.29 Suppose an economy can produce various amounts of two goods, food, and shelter, using its available resources. The economy is currently producing a mix of food and shelter, and is on its production possibilities curve. Which statement is also true?
- A. It is not possible for the economy to produce more food.
 - B. It is not possible for the economy to produce more shelter.
 - C. The economy is not using its resources efficiently.
 - D. The economy cannot simultaneously increase its production of both food and shelter.
 - E. The economy should not produce a mix of goods, but rather should use all resources to produce only food or only shelter.

- 3.30 Suppose an economy can produce various amounts of two goods, food, and shelter, using its available resources. The economy is currently producing a mix of food and shelter, and is below its production possibilities curve. Which statement is also true?
- A. It is not possible for the economy to produce more food.
 - B. It is not possible for the economy to produce more shelter.
 - C. The economy is not using its resources efficiently.
 - D. The economy cannot simultaneously increase its production of both food and shelter.
 - E. The economy should not produce a mix of goods, but rather should use all resources to produce only food or only shelter.
- 3.31 When resources are being used inefficiently,
- A. the economy is operating inside (below) the production possibilities curve.
 - B. the economy is operating outside (above) the production possibilities curve.
 - C. the production possibilities curve shifts out (to the right).
 - D. the production possibilities curve shifts inward (to the left).
 - E. the economy is operating right on the production possibilities curve.
- 3.32 A production possibilities curve that is concave to the origin (bulges out towards the upper right) means that
- A. there is a market at which trade can take place.
 - B. marginal costs rise as we try to produce more of a particular good.
 - C. there is a way to produce more of all goods without using any more resources.
 - D. marginal opportunity costs are constant (they do not increase as we try to produce more of a particular good).
 - E. somebody is using a protractor to draw the production possibilities curve
- 3.33 The slope of the production possibilities curve tells us
- A. the tradeoff possible between two goods.
 - B. the marginal cost of producing one of the goods, in terms of the other good given up.
 - C. the opportunity cost of one of the goods, if the other good is the best thing given up.
 - D. the 'rise over the run', or the vertical change over the horizontal change.
 - E. all of the above.
- 3.34 An economy that fails to realize all of its potential gains from specialization (division of labor) is
- A. achieving productive efficiency.
 - B. operating outside its production possibilities curve.
 - C. operating on its production possibilities curve, and thus need not be concerned with comparative advantage.
 - D. operating on its production possibilities curve in an inefficient manner.
 - E. operating inside its production possibilities curve
- 3.35 Suppose a production possibilities curve is constructed for two goods, bread and circuses. The slope of such a production possibilities curve does not indicate
- A. the tradeoff possible between bread and circuses.
 - B. the marginal cost of producing bread, in terms of the circuses given up.
 - C. that the marginal cost of bread is rising as we move to higher quantities of bread.
 - D. that the marginal cost of circuses is rising as we produce fewer circuses.
 - E. that scarcity exists, in that choices must be made and costs must be borne to produce bread.



- 3.36 The diagram above shows the production possibilities of rice and soybeans for the country of Pneumonia. Given this picture, Pneumonia's opportunity cost of producing more soybeans
- A. is higher at D than at A
 - B. is higher at A than at D
 - C. is the same at D and A
 - D. is highest at C
 - E. impossible to determine without more information
- 3.37 The diagram above shows the production possibilities of rice and soybeans for the country of Pneumonia. Given this picture, Pneumonia's opportunity cost of producing more rice
- A. is higher at B than at C
 - B. is higher at C than at B
 - C. is the same at B and C
 - D. is highest at A
 - E. impossible to determine without more information
- 3.38 The diagram above shows the production possibilities of rice and soybeans for the country of Pneumonia. Which of the following combinations is both possible and efficient?
- A. D
 - B. E
 - C. G
 - D. H
 - E. G
- 3.39 Which of the following is likely to eventually shift the production possibilities curve outward (to the right)?
- A. Reduction in research into new technology.
 - B. A tax policy that encourages capital investment in new equipment and technology while reducing current consumption.
 - C. A tax policy that discourages capital investment in new equipment and technology while increasing current consumption.
 - D. Increases in income tax rates, which discourage people from working harder.
 - E. Natural disasters that destroy resources and make production more difficult.
- 3.40 Trade based on comparative advantage assures that
- A. only the strongest survive.
 - B. some people are rich and others are poor.
 - C. each item is produced using the least amount of time needed to produce it.
 - D. each item is produced at as low a cost possible in terms of other things given up.
 - E. every trade has a winner and a loser.

Multiple-Choice Based on Textbook's End-of-Chapter Questions

- T3.3 Operating inside (below) the production possibilities curve means that
- A. each good is being produced by the resource or method that produced it at lowest cost.
 - B. some good is being produced by a resource or method that does not produce it at lowest cost.
 - C. producers are specializing in the goods that they have a comparative advantage in producing.
 - D. production is efficient
 - E. production is efficient, but it is less than it could be.
- T3.4 The slope of the production possibilities curve tells us
- A. the level of efficiency in the economy
 - B. the percentage of efficient specialization that is occurring in the economy
 - C. the marginal cost of producing one of the goods, in terms of the other good given up
 - D. the total amount of both goods produced
 - E. the percentage of absolute advantage relative to comparative advantage
- T3.5 Which of the following might increase the production possibilities for workers in a bakery?
- A. The bakery buys new computerized mixers that shorten the time to make dough for cookies.
 - B. Changing the jobs each worker is assigned, so that each is making the good that he or she can make at lowest cost.
 - C. Firing some workers.
 - D. Requiring each worker to fill out lengthy paperwork every time they put something into the ovens.
 - E. None of the above.
- T3.6 A person has a comparative advantage in a task if she
- A. can perform that task better than other people.
 - B. can perform that task faster than other people.
 - C. gives up more other things to do that task than other people would have to give up.
 - D. gives up fewer other things to do that task than other people would have to give up.
 - E. None of the above.
- T3.7a According to the law of comparative advantage,
- A. gains from specialization and exchange are not possible.
 - B. nations gain when they specialize in the production of those goods that they can produce at low opportunity cost.
 - C. nations gain when they specialize in the production of goods that they themselves consume.
 - D. nations gain when they specialize in the production of those goods that they can produce at high opportunity cost.
 - E. nations gain when they specialize in the production of those goods that they can produce in the greatest quantity.
- T3.7b According to the law of comparative advantage,
- A. gains from specialization and exchange are not possible.
 - B. nations gain when they import those goods that they can themselves produce at low opportunity cost compared with other countries.
 - C. nations gain when they import goods that they themselves consume in greatest quantity.
 - D. nations gain when they import those goods that they produce at higher opportunity cost than other countries.
 - E. nations gain when they import those goods that they can produce in the greatest quantity.

- T3.8 International trade based on comparative advantage
- A. will reduce the level of production and standard of living in the trading countries.
 - B. will reduce the level of production and standard of living in some countries, but raise them in others, as the "winner" countries force the people of "loser" countries into trades they don't want.
 - C. will reduce the level of production but raise the standard of living in the trading countries.
 - D. will raise the level of production but reduce the standard of living in the trading countries.
 - E. will increase the level of production and standard of living in the trading countries, by allowing more efficient use of resources.

A large computer manufacturer needs technically-inclined people to answer customer support questions (following pre-written instructions) over the telephone. A software company also uses technically-inclined people to check software for errors in the program. In an average day, three people can perform these tasks according to the following table. The countries that these people live in are shown in parentheses.

Worker	Support Questions Answered	Lines of Software Code Checked
Bandhu (India)	15	75
Shen-Tian (China)	12	40
Pulika (Kenya)	10	25

- T3.11a According to the table above, which worker would have the greatest comparative advantage in answering support questions?
- A. Bandhu B. Shen-Tian C. Pulika
 - D. Either Bandhu or Shen-Tian, but we need more information to say for certain.
 - E. Either Bandhu or Pulika, but we need more information to say for certain.
- T3.11b According to the table above, which worker should be asked to specialize in answering support questions?
- A. Bandhu B. Shen-Tian C. Pulika
 - D. Either Bandhu or Shen-Tian, but we need more information to say for certain.
 - E. Either Bandhu or Pulika, but we need more information to say for certain.
- T3.11c According to the table above, which worker would have the greatest comparative advantage in checking lines of software code?
- A. Bandhu B. Shen-Tian C. Pulika
 - D. Either Bandhu or Shen-Tian, but we need more information to say for certain.
 - E. Either Bandhu or Pulika, but we need more information to say for certain.
- T3.11d According to the table above, which worker will tend to specialize in checking lines of software code?
- A. Bandhu B. Shen-Tian C. Pulika
 - D. Either Bandhu or Shen-Tian, but we need more information to say for certain.
 - E. Either Bandhu or Pulika, but we need more information to say for certain.
- T3.11e According to the table above, in which task would it be efficient for Pulika specialize in performing?
- A. answering support questions B. checking lines of software code C. both
 - D. She could perform either task, or both; which she does will depend on how much of each task the firm needs performed.
 - E. Neither. Since Pulika is such a poor worker, there is no benefit to having her work.

Answers and Explanations

- 3.1 D. Her opportunity cost of driving is that she gives up earning \$240 (three times \$80, since it takes three days and she could earn \$80 each of those days). However, this cost is offset by a benefit of \$50 she gets if she drives that she would not get if she flew. So, beyond whatever money expenses are involved, she is giving up a net cost of $\$240 - \$50 = \$190$ if she drives rather than flying. Therefore, in order for her to drive, she must find that the money expense of driving is less than that of flying by at least \$190 in order to make up for the higher non-money cost
- 3.2 B. The opportunity cost of selling an item to any customer is the highest valued thing you could do with the item instead of selling it (you might keep it yourself, for example, or sell it to some other customer who needs it more). After a disaster, the number and value of alternative uses of some items, such as flashlights, will rise as more people desire them and as the people who have them have a greater desire to keep them. So, the costs of selling them go up (not necessarily in money terms, but in opportunity cost terms).
- 3.3 D. Again, the opportunity cost of selling an item to any customer is the highest valued thing you could do with the item instead of selling it (such as selling it to some other customer who wants it more).
- 3.4 E. Opportunity cost must be considered if a person is to use her or his time efficiently. How good Elizabeth is at setting up appointments is not the only consideration; what else she might be doing is even more important
- 3.5 C. Efficiency means society is making all it can make, given its current resources. Without finding more resources, the only way to make more of one good is to move resources away from making something else.
- 3.6 A. Efficiency in production means that we are making as much of each thing as we can right now, given everything else we are making. We could make more of one good, but the only way to do so would be to divert resources from making one of the other goods.
- 3.7 E. The law of comparative advantage says that if we want efficiency and we want to produce the most, we should have each resource producing the good that it can produce at lowest cost. It implies that, since more will be produced, everyone will benefit to some degree.
- 3.8 A. Since all goods will be produced at lowest cost this way, and more will be produced overall, everyone will get more goods and pay less for them than if trade and specialization did not occur.
- 3.9 A. Efficient specialization is based on comparative advantage. Since in most societies, specialization is encouraged by consumers economizing, the search for goods at lowest cost will lead to specialization based on comparative advantage.
- 3.10 A. Again, efficiency and economization depend on examining opportunity cost; who should be doing the typing depends on who is giving up the least valuable alternative to do the typing. Answer B shows some reflection of opportunity cost. Answer C, is an implication of the law of comparative advantage as is E. Answer D is a restatement of a concept from chapter 1.
- 3.11 B In Italia, each ton of clothing costs $\frac{1}{2}$ ton of food (8 tons divided by 16 tons). In Slavia, each ton of clothing costs $\frac{1}{3}$ ton of food (10 tons divided by 30 tons). Since Slavia has the lower cost of making clothing, Slavia has a comparative advantage in clothing. Slavia could benefit from trade with Italia because it could get food at lower cost from Italia than by self-production. Similarly, Italia would benefit by purchasing lower-cost clothing from Slavia.
- 3.12 D. Every X Calvin makes costs 1Y ($2Y$ divided by $2X$); and every Y Calvin makes costs $\frac{1}{2}X$ ($2X$ divided by $2Y$). Every X Hobbes makes costs half of a Y ($3Y$ divided by $6X$), and every Y Hobbes makes costs $\frac{2}{3}X$ ($6X$ divided by $3Y$). So, Hobbes has a lower cost of making X, while Calvin has a lower cost of making Y. Efficiency and maximizing the total output would mean that each should specialize in production of the good that he can produce at lowest cost.

- 3.13 D Having each person specialize in the task that she or he can do at lowest cost will result in more production (or having to use less resources, such as time).
- 3.14 E. Bart is not as good at either task as Lisa, so he does not have an absolute advantage in either. The cost to Bart of each mowed lawn is 20 dishes, but the cost to Lisa of each mowed lawn is also 20 dishes, so neither of them has a comparative advantage in either mowing or doing dishes.
- 3.15 B. Every time Gilligan produces a coconut, it costs him two-thirds of a fish (50 fish divided by 75 coconuts). Every time Gilligan produces a fish, it costs him one and a half coconuts (75 coconuts divided by 50 fish). The Skipper can produce a coconut at a cost of four-fifths of a fish (100 fish divided by 125 coconuts), and can produce a fish at a cost of one and one-quarter of a coconut (125 coconuts divided by 100 fish). So, Gilligan has a lower cost than the Skipper at producing coconuts but the Skipper has a lower cost than Gilligan when producing fish. Again, it is the cost (in terms of the other good given up) that matters.
- 3.16 B. Larry's cost of producing one narf is one-third of a zort (70 zort divided by 210 narf). Maurice's cost of producing one narf is one-fourth of a zort (40 zort divided by 160 narf). Pinky's cost of producing one narf is one-half of a zort (25 zort divided by 50 narf). So, the producer with the lowest cost (and thus the greatest comparative advantage) is Maurice.
- 3.17 C. Larry's cost of producing one zort is three narf (210 narf divided by 70 zort). Maurice's cost of producing one zort is four narf (160 narf divided by 40 zort). Pinky's cost of producing one zort is two narf (50 narf divided by 25 zort). So, the producer with the lowest cost (and thus the greatest comparative advantage) is Pinky.
- 3.18 A. The producer who can produce the most narf in a day is the one with the absolute advantage, which is Larry.
- 3.19 B The producer with the lowest cost of producing narf would specialize in producing it, and as we found in question 3.16, that is Maurice.
- 3.20 C. The producer with the lowest cost of producing zort would specialize in producing it, and as we found in question 3.17, that is Pinky.
- 3.21 B. Pinky is the lowest cost producer of zort (and has a comparative advantage in its production).
- 3.22 D. Even though Larry can produce more zort or narf than either of the other producers, he doesn't have a lower cost or comparative advantage in producing either narf or zort. So, which good he produces will depend on how much of each good consumers want. He may produce some of each or he may end up producing only one of the goods.
- 3.23 B. The prices of narf and zort have to be such that Maurice, the producer with the lowest narf cost, is willing to produce some narf, while Pinky, the producer with the lowest zort cost, is willing to produce some zort. Since Pinky gives up two narf to make each zort, he must get paid at least as much for a zort as he could get paid for two narf (otherwise, he wouldn't be willing to make any zort). It is also true that Maurice gives up one-fourth of a zort every time he makes a narf (or gives up four narf to make a zort), so he must get paid at least as much for a narf as he would get paid to make one-fourth of a zort, or else he wouldn't make any narf. So, for example, if a narf costs \$1, Pinky would only find it worthwhile to produce zort if he got paid at least \$2 for each zort. However, if the price of zort goes up as high as \$4, even Maurice, the highest-cost maker of zort, would make more money making zort than making narf, so no narf would be created. So, the price of zort must be at least twice as big as the price of narf, but can't be more than four times as big.
- 3.24 D. Japan's cost of making each automobile is 4 head of beef (20 million head of beef divided by 5 million automobiles). Japan's cost of each head of beef is one-fourth of an automobile (5 million automobiles divided by 20 million head of beef). The U.S. cost of one automobiles is 10 head of beef (70 million divided by 7 million), and the U.S. cost of one head of beef is one-tenth of an automobile (7 million divided by 70 million). Thus, Japan is the lowest cost producer of automobiles, and the U.S. is the lowest cost producer of beef.

- 3.25 D. Japan has a comparative advantage (lowest cost) in producing automobiles (see the answer to 3.24). The U.S. has a comparative advantage in producing beef, due to its lower cost of production. The U.S. also has an absolute advantage in producing both automobiles and beef, since the U.S. can produce a greater quantity of both of these goods. However, that does not mean it is efficient for the U.S. to produce both goods.
- 3.26 D
- 3.27 A. Efficiency in production means that we could make more of one good, but the only way to do so would be to divert resources from making one of the other goods. This would mean moving along the production possibilities curve.
- 3.28 D. Inefficient production means that we could make more of one good without having to move resources away from making other goods. Resources are not now making all that they are able to make. Currently, society is below or inside the production possibilities curve, and only needs to move onto the PPC to produce more.
- 3.29 D Being on the production possibilities curve means the economy is now efficient. More of one of the goods could be produced, but only by moving resources away from production of the other good.
- 3.30 C. Being below the production possibilities curve means the economy is not now efficient. By becoming efficient (moving onto the curve), the economy could produce more of one or both goods with the same resources it is now using.
- 3.31 A. Producing less than is possible or below the efficient amount occurs below the PPC.
- 3.32 B. The shape of the curve means that the cost of efficiently switching production from one good to another is changing. Since the curve gets steeper towards the right side of the curve, the cost is rising as more of the good on the horizontal axis is produced
- 3.33 E.
- 3.34 E. Producing less than is possible or below the efficient amount is represented by a point below (inside) the PPC rather than on it.
- 3.35 D. The increasing slope as we move from left to right on the curve indicates increasing cost.
- 3.36 B. The more soybeans that are already being made, the higher the cost of making additional ones. At point A, all resources are already being used to make soybeans, so it is not possible to make any more.
- 3.37 B. The more rice that is already being made, the higher the cost of making additional rice. At point C, more resources are being used to make rice than at point B. Also, the slope of the curve is greater at C.
- 3.38 A. Points A, B, C, and D are each efficient, but only answer A contains one of these.
- 3.39 B. The curve will move to the right over time if there are more resources. This will happen if new resources (capital) are created instead of goods to consume. For example, if machines to make new cars are built instead of cars themselves, more cars can be built in the future than would otherwise be possible..
- 3.40 D. Producing based on comparative advantage means producing at lowest cost. An implication of doing so is that society will end up with the most goods possible from the resources used.
- T3.3 B. If some resource is used to produce something for which it does not have a comparative advantage, or for which it is not the lowest cost producer available, then total output will be below what is possible. This inefficiency will result in being below the PPC.
- T3.4 C. The slope of the PPC tells us how much of one good must be given up to obtain each unit of the other good.

- T3.5 A. Anything that increases the maximum amount of one or more goods that can be produced will increase the production possibilities. This includes more resources or making the existing resources more productive. Changing the assignments will not change the possibilities, but will let us achieve the maximum that was always possible (just not realized).
- T3.6 D. Comparative advantage is doing something at lower opportunity cost than other people can do it (or than most other people can), not doing it faster or better. The cost in terms of other things that she could do is the important consideration.
- T3.7a B. Trade between nations is no different from trade between individuals in this respect. Things can be obtained at lower cost, and thus more can be produced, if each producer (person or country) bases its production on cost considerations.
- T3.7b D. By obtaining goods from other countries when those countries can provide them at lower cost, a country can not only obtain more goods, but can use its own resources more efficiently.
- T3.8 E. By obtaining goods from other countries when those countries can provide them at lower cost, a country can not only obtain more goods, but can use its own resources more efficiently.
- T3.11a C. Pulika's cost is the lowest for answering support questions (2.5 lines of computer software code). Bandhu's cost is 5 and Shen-Tian's is $3\frac{1}{3}$.
- T3.11b C. Pulika's cost is the lowest for answering support questions (2.5 lines of software code). Bandhu's cost is 5 and Shen-Tian's is $3\frac{1}{3}$. So, Pulika should be put to work on answering support questions.
- T3.11c A Bandhu's cost is only $\frac{1}{5}$ (or 0.2) support questions for each line of software code Shen-Tian's is 0.3 and Pulika's is 0.4.
- T3.11d A Since Bandhu has the lowest cost, he should do it.
- T3.11e A Of the three people, Pulika's cost is lowest for answering the support questions.

Chapter 4

General Multiple-Choice Questions

- 4.1 Prohibiting a trade between two people
- A. will promote economic efficiency.
 - B. probably will inhibit productive efficiency.
 - C. might be necessary if resources are to be put to their most highly-valued uses.
 - D. will have no effect on other persons.
 - E. is bad for everybody.
- 4.2 Bart trades his tuna and alfalfa sprout sandwich away to Lisa for a Butterfinger Bar. Since they both agree to trade voluntarily,
- A. Lisa and Bart agree that a Butterfinger Bar is about equal in value to a tuna sandwich.
 - B. Lisa values Butterfinger Bars more highly than Bart does.
 - C. at the time of the trade, each feels that he or she is benefiting from the trade.
 - D. Bart probably thinks that a tuna sandwich is more valuable than a Butterfinger, because it is more nutritious.
 - E. Bart gets to do Butterfinger commercials, while Lisa does tuna sandwich commercials.
- 4.3 When Bob buys a VCR from the SONY™ Co. for \$300
- A. Bob values the \$300 more than he values the VCR.
 - B. Bob values the money more than the SONY™ Co. does.
 - C. Bob is made worse off.
 - D. Bob values the VCR more in money terms than the SONY™ Co. does.
 - E. the SONY™ Co. is made worse off.
- 4.4 Swashbuckler Barbie™ and galley slave Ken are stranded on Barbie's™ Deserted Fashion Island®. Both have supplies of (dolphin-safe) canned tuna fish and coconuts. Ken places the same value on two cans of fish as he does on one coconut, while Barbie™ places the same value on one can of fish as she does on two coconuts. What can you say?
- A. They will not trade because they cannot agree how much a coconut is worth.
 - B. Barbie™ will trade away fish in exchange for coconuts.
 - C. Ken will trade away fish in exchange for coconuts.
 - D. Ken will trade away coconuts to get fish.
 - E. Both B. and D. are correct.
- 4.5 Trade
- A. will only occur if the two traders are in complete agreement as to the value (or cost of obtaining) all of the goods being exchanged.
 - B. must harm one of the traders, if it benefits the other.
 - C. will prevent specialization from occurring,
 - D. is not productive in any sense, nor does it lead to greater production.
 - E. promotes both productive and allocative (distribution) efficiency.
- 4.6 Which of the following is true?
- A. Traders must agree as to the values of the items being traded.
 - B. Cost is irrelevant when decisions about production are made.
 - C. Trade is based on absolute rather than comparative advantage.
 - D. Trade can actually result in more goods being produced than would otherwise be made.
 - E. We would all be better off if we produced items for our own consumption rather than buying them from others, which is always more costly.

- 4.7 Trade
- A. benefits both parties if it is voluntary.
 - B. is productive, in that it encourages low-cost producers to produce goods.
 - C. facilitates specialization.
 - D. distributes goods to those people who value them most highly.
 - E. all of the above.
- 4.8 Trade between two people will occur if
- A. at least one of the people has a surplus of some good.
 - B. the people differ in their relative preferences for the goods they possess.
 - C. one of the people is absolutely better at producing one of the goods than the other person is.
 - D. one of the people has more of something than the other person does.
 - E. it makes one of the people worse off without making the other person better off.
- 4.9 Trade between two people
- A. always benefits both parties.
 - B. sometimes benefits both parties.
 - C. usually benefits one person at the expense of another.
 - D. usually helps the richer of the two and hurts the poorer of the two.
 - E. B through D are all correct.
- 4.10 Trade can benefit both people involved in a trade if
- A. the traders differ in their personal valuations of the items being traded.
 - B. the traders differ in terms of the costs they each would have to bear in order to produce the items being traded.
 - C. trade is based on comparative rather than absolute advantage.
 - D. A, B, and C are true.
 - E. you believe in fantasies, rather than accepting that every trade has a victim and victor.
- 4.11 Transactions costs
- A. are the costs associated with the action of trading, and include information costs.
 - B. can be reduced by gathering information about possible alternative exchanges.
 - C. cannot be reduced by consulting people who specialize in providing information about possible alternative exchanges.
 - D. cannot be reduced by using consumer cooperatives or supermarkets.
 - E. cannot be reduced at all.
- 4.12 Which of the following is the clearest example of a transaction cost?
- A. The price of a movie ticket.
 - B. The price of food eaten before the movie.
 - C. Time spent watching the movie.
 - D. Time spent in line to buy the movie ticket.
 - E. all of the above.
- 4.13 A middleman
- A. is usually unnecessary for most trades, and thus a rarity.
 - B. is a hindrance to trade.
 - C. changes the nature of trade, so that both parties no longer benefit from the trade.
 - D. produces nothing, and thus does not promote efficiency of any kind.
 - E. lowers transactions costs and thus facilitates trade.

- 4.14 Which of the following is the clearest example of a middleman?
A. a plumber B. an attorney C. a stock broker
D. a surgeon E. an accountant
- 4.15 Middlemen
A. lower the information costs and other costs associated with arranging trades.
B. produce nothing of value.
C. only raise the costs of trading.
D. set the equilibrium prices of goods.
E. reduce the number of trades possible.
- 4.16 Miss Tweeter buys hi-fi speakers from an electronics store for \$1500. Mr. Woofer buys the same speakers directly from the manufacturer for \$1250. This implies that
A. Miss Tweeter is being cheated.
B. retail stores serve no purpose.
C. Miss Tweeter is not economizing.
D. Miss Tweeter values the services of middlemen more than Mr. Woofer does.
E. Using middlemen is always more costly.
- 4.17 A private owner of an item of property (or resource) has a strong incentive to
A. conserve the property for the future, especially if it is expected to increase in value.
B. use the property wisely, rather than “trashing” it.
C. employ the property in ways that benefit others.
D. take care that the property is not used in ways that directly harm others.
E. all of the above.
- 4.18 Property rights
A. are only for the rich.
B. discourage the flow of resources into their highest-valued uses.
C. mean that an owner of property can do whatever he or she wants with it.
D. provide owners with incentives to conserve and/or use their resources thoughtfully.
E. make it costless for a resource owner to leave a resource unused.
- 4.19 Government-owned public housing is frequently run-down and poorly maintained. An economic explanation for this is that
A. the government lacks funds to keep up the quality of the housing.
B. there is little incentive for residents in public housing to maintain something that they do not own.
C. residents in public housing are always lazy or poor people who won't or can't keep it up.
D. governments prefer that public housing is of such poor quality that no one would want to live in it if they had the choice.
E. government is inherently inefficient and thus cannot maintain the quality of any kind of land or building.
- 4.20 Which of the following is most likely to encourage private land owners to plant more trees?
A. An increase in the use of paper bags, paper towels and other products made from freshly-cut trees.
B. A law requiring that consumers buy more paper products made from recycled paper.
C. Laws requiring that people turn in all of their recyclable paper products for recycling.
D. Increased use of artificial Christmas trees.
E. Decreased use of lumber in construction and furniture products and increased reliance on synthetic materials such as plastic and fiberboard.

Multiple-Choice Based on Textbook's End-of-Chapter Questions

- T4.1 Allocative efficiency is
- A. the same thing as comparative advantage.
 - B. the same thing as production efficiency.
 - C. always reached if we take something from a person who has a lot of it and give it to someone who has little of it.
 - D. impossible to achieve if we have productive efficiency.
 - E. achieved if there is no way to make some person better off without causing harm to someone else.
- T4.2 If Jimmy Lightfingers would get a lot of utility from your television set, and steals it from you
- A. his action is allocatively efficient.
 - B. his action is productively efficient.
 - C. his action will promote efficiency, since I will not be able to waste time watching TV.
 - D. his action is allocatively inefficient, since he is harming me, and there is no guarantee that he gets more utility from the TV than I do.
 - E. his action is allocatively efficient if I was planning to sell the TV set anyway.
- T4.3 Why are we sure that trade is allocatively efficient?
- A. Because people who trade always give up more utility than they get.
 - B. Because people who voluntarily trade each gain more utility than they give up.
 - C. Because trade enables specialization.
 - D. Because trade reduces transactions costs.
 - E. Because trade between two people increases the utility of one person while reducing the utility of the other.
- T4.4 Private ownership of a resource or good gives the private owner
- A. strong incentive to develop or modify her property in ways that are objectionable to others.
 - B. little incentive to take care of her resource or good.
 - C. strong incentive to care for, maintain and conserve the resource or good for the future.
 - D. strong incentive to use the resource or good right away rather than saving it for possible future use.
 - E. the right to do whatever she wants with the things she owns.
- T4.5 A 64-year-old orange grower (who owns the land her groves are planted on) plans to sell her groves and retire in 3 years. Right now, she has some vacant space where she could plant new trees, but they will not produce fruit for another 5 to 10 years. She...
- A. will realize she will be retired by then, and so will have no incentive to plant them.
 - B. might plant the trees, but will also have an incentive to cut them down in just a few years, before they reach the proper size for harvesting.
 - C. will be able to recapture the value she is adding to her land by planting the trees and caring for them for a few years, and so will have an incentive to plant them.
 - D. will take vitamins and exercise so that she can live to be 110.
 - E. will retire immediately, since there is no way she can benefit from anything she does so late in her life.

- T4.6 Some states have laws that make it illegal to re-sell tickets for sporting events or concerts at prices above the original purchase price ("ticket scalping"). Who is hurt by such laws?
- A. only people who own tickets but are not able to resell them.
 - B. people who are able to get tickets at the lower price.
 - C. no one is harmed.
 - D. people who own tickets but are unable to sell them for more money and people who are willing to pay more than the original price for the tickets but are unable to buy them.
 - E. only people who are willing to pay more than the original price for the tickets but are unable to buy them.

Answers and Explanations

- 4.1 B. Since trade and specialization lead to comparative advantage being exploited, preventing trade will interfere with efficiency.
- 4.2 C. Trading of goods only takes place if each person feels they are getting something he or she values more than the thing he or she is giving up.
- 4.3 D. Trading of goods only happens if each person feels they are getting something he or she values (desires to have) more than the thing he or she is giving up. Thus, Bob must value the VCR more than the \$300 he is giving up, but SONY values the \$300 more than the VCR (or desires to have the VCR less than it desires to have \$300).
- 4.4 C. First, notice the two people place different values on the fish and coconuts. For Ken, one coconut is worth or equal to two cans of fish, or 1 coconut = 2 cans of fish. This means that, for Ken, 1 can of fish = 1/2 coconut, or one can of fish is worth or equal to half a coconut (divide one coconut by two cans of fish). For Barbie™, one can of fish is worth (equal to) two coconuts. So Barbie™ values one can of fish more than Ken does (his value of the fish was only one-half of a coconut). Since Ken doesn't like fish as much as Barbie™, he would be willing to trade it away (give it up) to get something he values more (coconuts).
- 4.5 E. Trade enables the law of comparative advantage to operate, increasing productive efficiency and total production. It also moves goods into the hands of the people who get the most enjoyment or value from them, which promotes allocation or distribution efficiency by increasing peoples' happiness. Only if people differ as to the value they personally place on goods, or the costs of producing the goods themselves, would they trade. Both people must benefit overall from the trade, or they would not willingly do it.
- 4.6 D. This is because trade helps us exploit comparative advantage.
- 4.7 E
- 4.8 B. Each person must view the good she is giving up as of lower value to her (personally) than the item she is receiving in exchange. But this requires that her trading partner views the items in exactly the opposite way.
- 4.9 A. Again, if this were not true, the people would not trade.
- 4.10 D
- 4.11 A. Transactions costs include the costs of gathering information, so B isn't right. If you find people to help you lower information costs, you are lowering transactions costs, so C isn't right, and neither is E. Supermarkets provide information (and transportation) at lower cost than consumers could get it themselves by searching for producers, so D is not right.
- 4.12 D. Transactions costs are not what you pay to buy something; they are what you have to give up to get to the point where you can pay to buy something (they are costs leading up to the transaction). A is part of the trade, so is not a transactions cost. C occurs after the transaction. B is a different transaction.
- 4.13 E. If you use a middleman, it is because he is able to help you by lowering transactions costs.
- 4.14 C. This is the only listed occupation that is not producing the good or service being purchased, but is instead helping the buyer find the seller. The broker's service includes providing information and assistance with the purchase of stock, but the broker is not selling her own stock.
- 4.15 A. Middlemen perform this function. If they don't, we don't use them.
- 4.16 D. Miss Tweeter may have less information than Mr. Woofer, and so goes to the middleman to find out which speakers are best for her. The electronics store provides her with information by giving her a place to listen to many different products from many manufacturers. This may be the most economical way for her to get this information.
- 4.17 E. These are all examples of the incentives that ownership gives people.

- 4.18 D. Answer A is incorrect, because even the poorest person can own her own time. B and E are incorrect, because ownership gives a person the incentive to find the best use of resources that she owns (such as her time). Ownership carries responsibilities, so C is not correct.
- 4.19 B. If a person uses something owned by someone else, the benefits of caring for the item also belong to someone else.
- 4.20 A. The owner of a resource gets a benefit from preserving, enhancing, or replenishing that resource as it becomes more valuable (and has more uses).
- T4.1 E Allocative efficiency is achieved if any further changes in distributions of goods will reduce some person's utility (because we can't be sure that the decrease in that person's utility will be outweighed by the increase in utility we are giving someone else). Technically, we may not have maximized total utility, but further changes would require measuring exactly how much increase in utility we would give one person and how much reduction in utility we are causing the other person.
- T4.2 D Whenever one person is harmed by a change in allocation of goods, the action is not efficient.
- T4.3 B If trade increases the utility of two people, and does not reduce utility of anyone else, it must increase total utility.
- T4.4 C. These are some of the incentives that ownership provides.
- T4.5 C. The value of her property will go up if she plants trees there, and so she has an incentive to do so, whether she intends to sell the property or pass it on to heirs. The future value of the trees she plants will affect the current and near-term value of the land.
- T4.6 D. Preventing trades makes the people who want to trade worse off, whether they are buyers or sellers.

Chapter 5

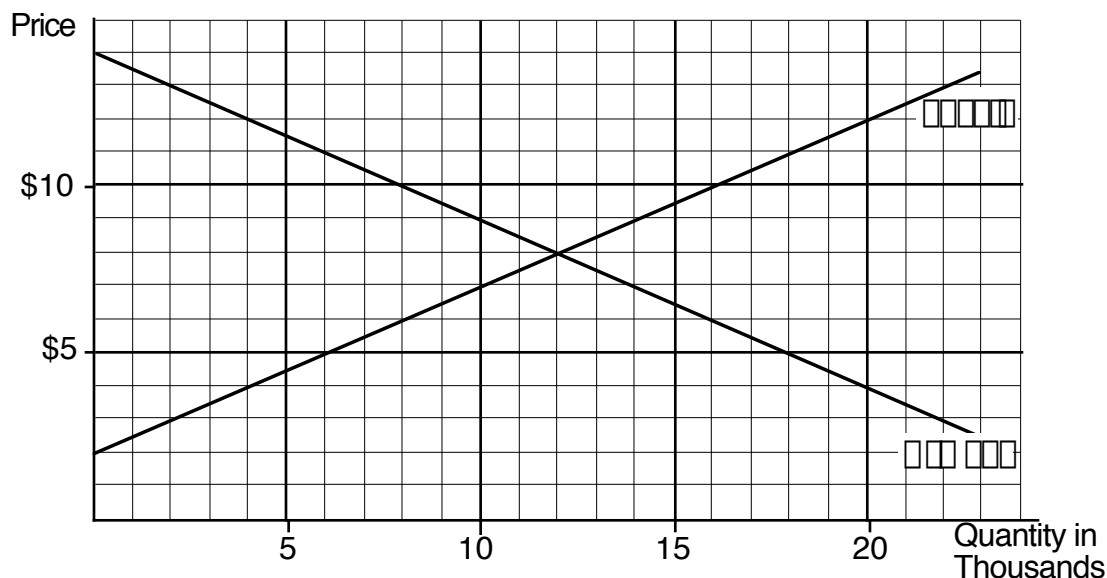
General Multiple-Choice Questions

- 5.1 Homer gets fifty cents worth of pleasure from the first donut he eats, but only forty-five cents worth of pleasure from the second donut he eats in the same sitting. This is an example of
- A. the donut pleasure relationship.
 - B. production possibilities.
 - C. opportunity cost.
 - D. comparative advantage.
 - E. diminishing marginal utility.
- 5.2 When a buyer purchases an item, the price that the buyer is willing to pay for the good reflects
- A. the overall total value (benefits) of all the production of that good to all potential buyers.
 - B. the sum of all the benefits that all actual buyers get from buying that good.
 - C. the marginal benefit that the buyer expects to get from the one unit of the good being purchased.
 - D. the total value of all of the units of the good that have been produced in the past.
 - E. the total value of all of the units of the good that are being consumed at the present moment.
- 5.3 If the price that a consumer must pay to obtain a product increases,
- A. quantity demanded will decrease.
 - B. the demand curve will shift to the right.
 - C. demand will decrease.
 - D. the demand curve will shift to the left.
 - E. quantity demanded will increase.
- 5.4 The amount of a good that buyers are willing to buy at a particular price (given their present circumstances) is called
- A. demand
 - B. quantity demanded
 - C. supply
 - D. quantity supplied
 - E. equilibrium
- 5.5 The various amounts of a good that buyers wish to buy at various different prices (given that nothing else is changing) is called
- A. demand
 - B. quantity demanded
 - C. supply
 - D. quantity supplied
 - E. equilibrium
- 5.6 Demand is
- A. the relationship between cost and quantity produced.
 - B. the same as "quantity demanded."
 - C. the same as price.
 - D. usually shown by a vertical (straight up and down) "demand curve."
 - E. the relationship between quantity demanded and price
- 5.7 The "Demand Curve" is usually drawn as
- A. horizontal.
 - B. downward sloping as we move from left to right.
 - C. vertical.
 - D. upward sloping as we move from left to right.
 - E. a production possibilities curve.
- 5.8 The Law of Demand states that
- A. price and quantity demanded are directly (positively) related.
 - B. at a higher price, a smaller quantity is desired by a purchaser.
 - C. the demand curve will be a upward-sloping line or curve.
 - D. as price goes down, the demand curve moves to the left.
 - E. parking is not allowed in a "Demand Zone."

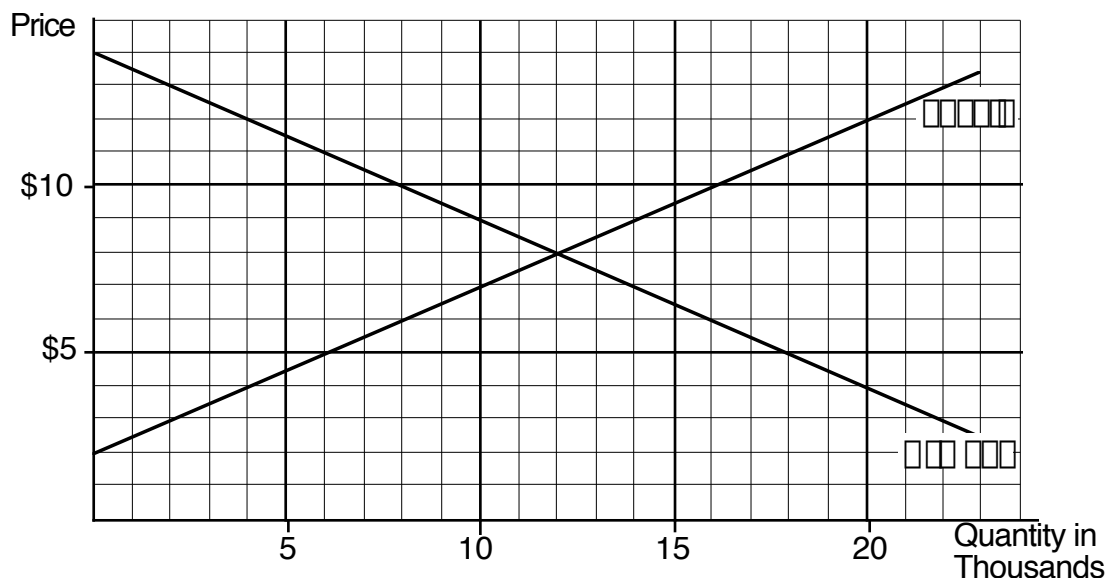
- 5.9 Does the demand for children obey the law of demand?
- A. No, children cannot be purchased for money.
 - B. No, people will have the same number of children no matter how much it costs to have them.
 - C. Yes, the number of children a parent chooses to have (or can afford to take care of) will be inversely related to the price or cost of having them.
 - D. Yes, people will choose to have more children if they are more expensive to feed, clothe, and bring into the world.
 - E. No, rich people don't generally have more children than poor people, so children must be an exception to the law of demand.
- 5.10 One study on health care has found that 94% of the people who now do not visit the doctor for a yearly check-up would be more likely to do so if the price of a doctor's visit was reduced. From this study, you can conclude...
- A. that the current price of doctor visits is too high.
 - B. that there is a shortage of doctors.
 - C. that there are too many doctors that specialize and not enough that do check-ups.
 - D. that there is a price ceiling on doctor visits.
 - E. that doctor visits obey the law of demand.
- 5.11 Which of the following goods does not obey the law of demand?
- A. The demand for air conditioning; in places like Phoenix, air conditioning is a necessity.
 - B. The demand for heart transplant surgery; no one buys more heart transplants just because they become cheaper.
 - C. The demand for children; children cannot be bought or sold at any price.
 - D. The demand for divorces; couples that want to divorce will do so no matter what the price.
 - E. None of the above; all goods obey the law of demand.
- 5.12 When considering the desire for items like water or air conditioning (in Arizona) we can say that
- A. demand for such goods will not obey the "law of demand."
 - B. since they are necessities, the quantity desired will not depend on price.
 - C. the demand curve for such items will not be downward-sloping.
 - D. even though they are not necessities, the quantity desired will not depend on price.
 - E. the quantity purchased will be inversely related to the price or cost of obtaining them.
- 5.13 In 1995, the average four-person household in the U.S. used about 400 gallons of water per day. Water rates are almost never more than \$.001 (one-tenth of a cent) per gallon. If water prices doubled,
- A. large numbers of poor and elderly would die of thirst.
 - B. the quantity of water used by a family in a year would probably not change at all.
 - C. people would reduce some uses of water, even if they did not drink less of it.
 - D. all of the above.
 - E. none of the above.
- 5.14 Most health insurance plans reduce the cost to the patient of visiting a doctor. In reality, most of the price of a doctor visit is paid by the insurance company, while patients pay only a part of the price (called the "co-pay"). What can you predict will result if the number of people with health insurance is increasing over time?
- A. the quantity of visits to the doctor will not change, since no one will get sick just because the doctor visit is less expensive.
 - B. people will make more visits to the doctor, according to the law of demand.
 - C. people will make fewer visits to the doctor, according to the law of demand.
 - D. people will view the price of seeing the doctor in the same way as they would if they did not have insurance.
 - E. doctors will reduce the quantity of services they provide.

- 5.15 If the price of BMW's rises, what will happen to the demand for BMW's?
A. Demand for BMW's will rise.
B. Demand for BMW's will fall.
C. Nothing.
D. Demand will fall, then rise again.
E. Demand will rise, then fall again.
- 5.16 If the price of Flair Gordon™ shoes falls, what will happen to the demand for Flair Gordon™ shoes?
A. Demand for Flair Gordon™ shoes will rise.
B. Demand for Flair Gordon™ shoes will fall.
C. Nothing.
D. Demand will fall, then rise again.
E. Demand will rise, then fall again.
- 5.17 The law of supply says that
A. there is an inverse (negative) relationship between the price of a good and the quantity of it that buyers want to buy.
B. there is an direct (positive) relationship between the price of a good and the quantity of it that buyers want to buy.
C. there is an inverse (negative) relationship between the price of a good and the quantity of it that will be offered for sale.
D. there is no relationship between the price of a good and the quantity of it that will be offered for sale.
E. there is an direct (positive) relationship between the price of a good and the quantity of it that will be offered for sale.
- 5.18 Which of the following indicates increasing marginal opportunity costs (as production is increased)?
A. Supply curves that slope down.
B. Demand curves that slope up.
C. Production possibilities curves that slope up.
D. Supply curves that slope up.
E. Demand curves that slope down.
- 5.19 The "Supply Curve" is usually drawn as
A. upward sloping as we move from left to right.
B. downward sloping as we move from left to right.
C. an "X"
D. horizontal.
E. vertical.
- 5.20 The amount of a good that sellers are willing to sell at a particular price (given their present circumstances) is called
A. demand
B. quantity demanded
C. supply
D. quantity supplied
E. equilibrium
- 5.21 The various amounts of a good that sellers are willing to sell at various different prices (given that nothing else is changing) is called
A. demand
B. quantity demanded
C. supply
D. quantity supplied
E. equilibrium

- 5.22 Supply is
- A. the relationship between price and quantity purchased.
 - B. the same as "quantity supplied."
 - C. the same as price.
 - D. usually shown by a vertical (straight up and down) "supply curve."
 - E. the relationship between quantity supplied and price
- 5.23 When a market is in equilibrium,
- A. price will neither tend to rise nor to fall .
 - B. price will tend to rise for the good.
 - C. marginal cost exceeds marginal utility for the good
 - D. price will tend to fall for the good.
 - E. quantity demanded will exceed quantity supplied.
- 5.24 A surplus of a good occurs if
- A. the good's price is below equilibrium.
 - B. the good's quantity demanded is above equilibrium.
 - C. the good's quantity supplied is below equilibrium.
 - D. quantity demanded is less than quantity supplied at the current price.
 - E. quantity demanded is greater than quantity supplied at the current price.
- 5.25 A shortage of a good occurs if
- A. the good's price is above equilibrium.
 - B. the good's quantity demanded is below equilibrium.
 - C. the good's quantity supplied is above equilibrium.
 - D. quantity demanded is less than quantity supplied at the current price.
 - E. quantity demanded is greater than quantity supplied at the current price.
- 5.26 If price is above equilibrium,
- A. a shortage will exist, and price will tend to fall.
 - B. a shortage will exist, and price will tend to rise.
 - C. neither a shortage nor a surplus exists, and price will tend to stay where it is.
 - D. a surplus will exist, and price will tend to fall.
 - E. a surplus will exist, and price will tend to rise.
- 5.27 If price is below equilibrium,
- A. a shortage will exist, and price will tend to fall.
 - B. a shortage will exist, and price will tend to rise.
 - C. neither a shortage nor a surplus exists, and price will tend to stay where it is.
 - D. a surplus will exist, and price will tend to fall.
 - E. a surplus will exist, and price will tend to rise.
- 5.28 If price is at equilibrium,
- A. a shortage will exist, and price will tend to fall.
 - B. a shortage will exist, and price will tend to rise.
 - C. neither a shortage nor a surplus exists, and price will tend to stay where it is.
 - D. a surplus will exist, and price will tend to fall.
 - E. a surplus will exist, and price will tend to rise.



- 5.29 The diagram above represents the market for crantankles. From the diagram, it is clear that the equilibrium price of crantankles is
 A. \$14 B. \$12 C. \$10 D. \$8 E. \$2
- 5.30 The diagram above represents the market for crantankles. From the diagram, it is clear that the equilibrium quantity of crantankles purchased is
 A. 15 thousand B. 12 thousand C. 10 thousand D. 8 thousand E. 5 thousand
- 5.31 The diagram above represents the market for crantankles. If a price of \$10 is placed on crantankles,
 A. there will be a shortage of eight thousand crantankles.
 B. there will be a surplus of eight thousand crantankles.
 C. there will be a shortage of four thousand crantankles.
 D. there will be a surplus of four thousand crantankles.
 E. none of the above.
- 5.32 From the diagram above, the quantity demanded at a price of \$10 would be
 A. 15 thousand B. 12 thousand C. 10 thousand D. 8 thousand E. 16 thousand
- 5.33 From the diagram above, the quantity supplied at a price of \$10 would be
 A. 15 thousand B. 12 thousand C. 10 thousand D. 8 thousand E. 16 thousand
- 5.34 The diagram above represents the market for crantankles. If a price of \$5 is placed on crantankles,
 A. there will be a shortage of six thousand crantankles.
 B. there will be a surplus of six thousand crantankles.
 C. there will be a shortage of twelve thousand crantankles.
 D. there will be a surplus of twelve thousand crantankles.
 E. none of the above.
- 5.35 From the diagram above, the quantity supplied at a price of \$5 would be
 A. 15 thousand B. 12 thousand C. 10 thousand D. 8 thousand E. 6 thousand
- 5.36 From the diagram above, the quantity demanded at a price of \$5 would be
 A. 15 thousand B. 18 thousand C. 10 thousand D. 8 thousand E. 16 thousand



- 5.37 The diagram above represents the market for crantankles. If price is \$9,
- A. there will be a shortage of eight thousand crantankles.
 - B. there will be a surplus of eight thousand crantankles.
 - C. there will be a shortage of four thousand crantankles.
 - D. there will be a surplus of four thousand crantankles.
 - E. none of the above.
- 5.38 From the diagram above, the quantity demanded at a price of \$9 would be
- A. 14 thousand
 - B. 12 thousand
 - C. 10 thousand
 - D. 8 thousand
 - E. 16 thousand
- 5.39 From the diagram above, the quantity supplied at a price of \$9 would be
- A. 14 thousand
 - B. 12 thousand
 - C. 10 thousand
 - D. 8 thousand
 - E. 16 thousand
- 5.40 The diagram above represents the market for crantankles. At a price of \$6,
- A. there will be a shortage of eight thousand crantankles.
 - B. there will be a surplus of eight thousand crantankles.
 - C. there will be a shortage of four thousand crantankles.
 - D. there will be a surplus of four thousand crantankles.
 - E. none of the above.
- 5.41 From the diagram above, the quantity demanded at a price of \$6 would be
- A. 14 thousand
 - B. 12 thousand
 - C. 10 thousand
 - D. 8 thousand
 - E. 16 thousand
- 5.42 From the diagram above, the quantity supplied at a price of \$6 would be
- A. 14 thousand
 - B. 12 thousand
 - C. 10 thousand
 - D. 8 thousand
 - E. 16 thousand
- 5.43 Based on the diagram above, buyers will want to buy *none* of the good if the price is
- A. below \$8
 - B. \$14 or more
 - C. \$2 or less
 - D. above \$8
 - E. \$2 or more
- 5.44 Based on the diagram above, sellers will want to sell *none* of the good if the price is
- A. below \$8
 - B. \$14 or more
 - C. \$2 or less
 - D. above \$8
 - E. \$14 or less

- 5.45 Which of the following is false?
- A. Consumers will purchase less beef at higher prices than at lower prices, if other factors remain the same.
 - B. A surplus of a good will generally occur if the price is above equilibrium.
 - C. Generally, suppliers will be willing to increase the quantity supplied in response to an increase in the price of a product.
 - D. Excess demand (a shortage) in the market will cause the price of a product to decline.
 - E. A surplus of a good occurs if the quantity demanded is less than the quantity supplied at the current price.
- 5.46 At the current price of a good, if the quantity demanded is greater than the quantity supplied,
- A. the price will tend to fall over time.
 - B. the price will tend to rise over time.
 - C. demand will tend to rise over time.
 - D. supply will tend to fall over time.
 - E. the price will neither tend to rise nor fall.

Multiple-Choice Based on Textbook's End-of-Chapter Questions

- T5.1 Marginal utility (value) that buyers get from consumption of a good is indicated by
A. consumer surplus. B. producer surplus.
C. the demand curve. D. the supply curve.
E. the buyers' consumers digest.
- T5.2a Why will demand curves slope down (to the right)?
A. Ceteris paribus, as the price of a good rises, consumers want to buy more of it.
B. Ceteris paribus, as the price of a good rises, consumers can afford to buy more of it.
C. Ceteris paribus, as the price of a good rises, fewer consumers will find their marginal utility exceeds the price of the good.
D. Ceteris paribus, as the price of a good rises, the quantity supplied will fall.
E. Ceteris paribus, as the price of a good rises, the demand curve will move to the left.
- T5.2b Why will demand curves slope down (to the right)?
A. Ceteris paribus, as the price of a good rises, consumers want to buy more of it.
B. Ceteris paribus, as the price of a good rises, consumers can afford to buy more of it.
C. Ceteris paribus, as the price of a good rises, consumers will think the good is better.
D. Ceteris paribus, as the price of a good rises, consumers will not be able to afford to buy as much of it.
E. Ceteris paribus, as the price of a good rises, the demand curve will move to the left.
- T5.2c The law of demand is consistent with
A. upward-sloping demand curves.
B. downward-sloping demand curves.
C. downward-sloping supply curves.
D. upward-sloping supply curves.
E. movement in the demand curve when price changes, ceteris paribus.
- T5.3 Does the demand for air conditioning obey the law of demand in Phoenix during the summer?
A. No, since there is no price of air conditioning.
B. Yes, since the demand for air conditioning will fall as it becomes more expensive.
C. Yes, since the demand for air conditioning will fall as it becomes less expensive.
D. Yes, since people will want to buy (or be able to afford) less air conditioning as its price rises.
E. No, air conditioning is a need, whose use or consumption does not fall as price rises.
- T5.4 When a family's income rises, they tend to buy more restaurant meals. This is true even though the price of restaurant meals has not changed. Such a change in quantity demanded with no change in price
A. disproves the law of demand; the only thing that can increase quantity demanded is a reduction in price.
B. is consistent with the law of demand, which says that the quantity demanded will only change if income changes.
C. is consistent with the law of demand, which says that price increases will increase quantity demanded, but also allows for other things to change quantity demanded as well.
D. is consistent with the law of demand, which says that price reductions will increase quantity demanded, but also allows for other things to change quantity demanded as well.
E. disproves the law of demand, which says that a rise in income will reduce the quantity demanded of goods.

- T5.5 The opportunity cost of producing a good and bringing it to market is reflected in the good's
- A. supply curve
 - B. demand curve
 - C. producer surplus
 - D. consumer surplus
 - E. surplus
- T5.6 Equilibrium in a market is indicated by
- A. surpluses of the good.
 - B. shortages of the good.
 - C. both shortages and surpluses of the good at the same time.
 - D. neither surpluses nor shortages of the good.
 - E. surpluses of the good if it is a luxury and shortages if the good is a necessity.
- T5.7 Water has a lower price than gasoline. Yet, water is necessary for life, while gasoline is not. This paradox (confusing fact) can be explained by realizing
- A. that life is full of confusing things that we cannot understand.
 - B. that gasoline really is necessary for life.
 - C. that water is really not all that needed in order to live.
 - D. that the marginal utility of a good (and the opportunity cost of obtaining it) determines price, rather than the total benefit or utility that a good gives.
 - E. that the law of demand says that at a lower price, more of a good is desired. Thus, if we want lots of water in order to stay alive, the price of water must be low.

Answers and Explanations

- 5.1 E. The (marginal) utility goes down as Homer eats additional donuts.
- 5.2 C. The marginal value or marginal utility of an item determines the price a buyer is willing to pay for the good, so the last or marginal item of that good purchased will reflect the marginal utility of its buyer, not all the utility of all the buyers.
- 5.3 A. This is the law of demand.
- 5.4 B. Quantity demanded (not to be confused with demand) is the amount that buyers are willing to buy at a particular price.
- 5.5 A. Demand describes all of the amounts that buyers would be willing to buy at various different prices. At each price, there is a different quantity demanded, and demand shows us all of the prices and the quantity demanded for each of the prices. It is thus not just one amount.
- 5.6 E.
- 5.7 B. It slopes down to show that price and quantity demanded are inversely or negatively related.
- 5.8 B.
- 5.9 C. While we don't normally think of children as being bought, they can be purchased illegally (adopting couples indirectly or directly pay for them). Also, couples having trouble conceiving can buy the services of fertility doctors. Even more commonly, if children are more expensive to give birth to and to raise, parents will have fewer of them (or try to). Women often get abortions or put children up for adoption when they are faced with the cost or price of having and keeping a child, whether that cost or price involves money or other things. Thus, the higher the cost or price of bearing children or keeping them, the fewer will be born or kept.
- 5.10 E. The study says that if seeing the doctor has a lower price, the quantity demanded is higher. This is the law of demand.
- 5.11 E. Sometimes the price we pay for things is not money, but cost in some other form. The lower that cost, the more of a good or activity that we can afford.
- 5.12 E. The lower the cost, the more of a good or activity that we can afford.
- 5.13 C. Most people use more water flushing the toilet once than they will drink the entire day. Bathing, washing clothes, washing dishes, rinsing vegetables, watering lawns, filling swimming pools, washing cars, hosing down driveways, kids playing in the sprinklers, etc., are all uses of water that could be reduced if the price went up enough. Even if the higher price of water just encouraged people to fix leaky plumbing, water would be saved.
- 5.14 B. With health insurance, the price paid by the patient is reduced. Each patient will be able to afford visits to the doctor they might otherwise not make, and also will tend to visit the doctor for less serious ailments. As more patients fall into this situation, the number of total doctor visits will rise.
- 5.15 C. The quantity demanded of BMW's will fall (*ceteris paribus*) but that is not the same as the demand changing
- 5.16 C. Nothing happens to demand; if the price of Flair Gordon™ shoes falls, quantity demanded will rise (but not demand).
- 5.17 E. In other words, sellers are willing to sell more if you pay them more to sell it.
- 5.18 D. Sellers will require greater payment in order to be willing to sell a greater quantity since the costs of making and selling each item are greater if more are being made. The relationship between the price and the quantity offered for sale, or the supply, is upward sloping for this reason.
- 5.19 A. At a higher price, the quantity supplied is higher.
- 5.20 D. Quantity supplied (not to be confused with supply) is the amount that sellers are willing to sell at a particular price.

- 5.21 C. Supply describes all of the amounts that sellers would be willing to sell at various different prices. At each price, there is a different quantity supplied, and supply shows us all of the prices and the quantity supplied for each of the prices. It is not just one amount.
- 5.22 E.
- 5.23 A. Equilibrium is the price at which the market will remain.
- 5.24 D. This is the definition of a surplus.
- 5.25 E. This is the definition of a shortage.
- 5.26 D. A surplus results if price is above equilibrium, as quantity supplied will be greater than quantity demanded. The condition will tend to reduce price, making the surplus go away.
- 5.27 B. A shortage results if price is below equilibrium, as quantity supplied will be less than quantity demanded. The condition will tend to raise price, making the shortage vanish.
- 5.28 C. At the equilibrium price, the quantity demanded is equal to the quantity supplied, so neither a shortage nor a surplus will exist.
- 5.29 D. The price at which the demand and supply curves intersect is \$8 (find where they meet, and follow the horizontal line going through that point over to the scale on the left axis).
- 5.30 B. The quantity at which the demand and supply curves intersect is 12 thousand (find where they meet, and follow the vertical line going through that point down to the scale at the bottom).
- 5.31 B. Find the \$10 on the left of the diagram. Follow that (horizontal) line over to the demand curve, and then follow the intersecting vertical line down to read the quantity demanded. Quantity demanded is 8 thousand. Doing the same thing with the supply curve shows that the quantity supplied is 16 thousand. Since the quantity supplied (16) is bigger than the quantity demanded (8), there is a surplus of the difference, (16 minus 8), or 8 thousand.
- 5.32 D. See 5.23. Find the price of \$10 on the vertical axis. Follow that line over to the demand curve, and then down to read the quantity demanded.
- 5.33 E. See 5.23. Find the price of \$10 on the vertical axis. Follow that line over to the supply curve, and then down to read the quantity supplied.
- 5.34 C. If the price is \$5, the quantity demanded is 18 thousand, but the quantity supplied is only 6 thousand. Since the quantity demanded is more than the quantity supplied, there is a shortage of difference, which is 12 thousand (18 minus 6).
- 5.35 E. Find the price of \$5 on the vertical axis. Follow that line over to the supply curve, and then down to read the quantity supplied.
- 5.36 B. Find the price of \$5 on the vertical axis. Follow that line over to the demand curve, and then down to read the quantity demanded.
- 5.37 D. If price is \$9, quantity demanded is 10 thousand, while quantity supplied is 14 thousand. The difference between them is the amount of the surplus.
- 5.38 C. Find the price of \$9 on the vertical axis. Follow that line over to the demand curve, and then down to read the quantity demanded.
- 5.39 A. Find the price of \$9 on the vertical axis. Follow that line over to the supply curve, and then down to read the quantity supplied.
- 5.40 A. If price is \$6, the quantity supplied is 8 thousand, while the quantity demanded is 16 thousand. The difference between them is the amount of the shortage.
- 5.41 E. Find the price of \$6 on the vertical axis. Follow that line over to the demand curve, and then down to read the quantity demanded.
- 5.42 D. Find the price of \$6 on the vertical axis. Follow that line over to the supply curve, and then down to read the quantity supplied.
- 5.43 B. Where the demand curve intercepts the vertical (price) axis is the price for which quantity demanded is zero. This is at about \$14, so if price is at this level or above, buyers will have zero quantity demanded. The price has to be less than \$14 for any trades to occur.

- 5.44 C. Where the supply curve intercepts the vertical (price) axis is the price for which quantity supplied is zero. This is at about \$2, so if price is at this level or lower, sellers will have zero quantity supplied. The price has to be greater than \$2 for any trades to occur.
- 5.45 D. All of the statements are correct except D. Excess demand (buyers wanting to buy more of the good than sellers want to sell at the current price) will push up the price as buyers compete to buy the good.
- 5.46 B. Buyers will bid up the price while trying to convince sellers to sell to them. Sellers will see that they can sell much more than they currently are selling, and will increase quantity supplied while raising price.
- T5.1 C. The price buyers are willing to pay to obtain an amount of a good (the cost they are willing to bear) is limited by the additional benefit that such an amount of the good will give them (marginal utility). So, the relationship between the price being paid and the amount of the good purchased is based on the marginal utility
- T5.2a C. This is mentioned in the textbook.
- T5.2b D. This is mentioned in the textbook.
- T5.2c B. Downward-sloping demand curves indicate that the price and quantity demanded are inversely related, as the law of demand says.
- T5.3 D. While few of us today would want to do without air conditioning, everyone had to back before it was invented, and some people do today. Many people cannot afford to install air conditioners, but could do so if air conditioners were cheaper. If room air conditioners were cheaper, people who have just one might buy air conditioners for more rooms. Also, for people who have air conditioning units installed, the more it costs to cool a room (or house), the more likely a person is to raise the thermostat (and thus purchase less air conditioning).
- T5.4 D. Actually, the law of demand says that quantity demanded is inversely related to price, *ceteris paribus* (other things remaining the same). One of the other things assumed to be the same is income. If income changes, the law of demand allows for quantity demanded to increase, even without the price changing.
- T5.5 A. The cost of selling a good determines the price at which sellers are willing to sell it. So, the supply curve, showing the relationship between the amount sellers are willing to sell and the price, is based on marginal cost
- T5.6 D. A surplus (excess supply) occurs if price is above equilibrium. A shortage (excess demand) occurs if price is below equilibrium. Equilibrium occurs when quantity demanded is equal to quantity supplied.
- T5.7 D. Another way of looking at this is that the demand for water is probably very high (since the benefit consumers get from it is large). However, the amount of it available is also quite large, and the cost of obtaining it is relatively low. In that sense, water is less scarce than oil; it is highly desired, but relatively plentiful, whereas oil is less important but also rarer.

Chapter 6

General Multiple-Choice Questions

- 6.1 Changes in the demand for Purple Glop can occur because of all of the following except:
- A. Changes in the price of complements.
 - B. Changes in the price of Purple Glop.
 - C. Changes in population.
 - D. Changes in people's income.
 - E. Changes in the price of substitutes.
- 6.2 Changes in the demand for Purple Glop can occur because of all of the following except:
- A. Changes in the price of complements.
 - B. Changes in the supply of Purple Glop.
 - C. Changes in population.
 - D. Changes in people's income.
 - E. Changes in the price of substitutes.
- 6.3 Milk and Soft Dark Brown Snack Stuff are complements. If a change in supply causes the price of Soft Dark Brown Snack Stuff to rise, what will happen to the market for milk?
- A. Demand for milk will rise.
 - B. Demand for milk will fall.
 - C. Supply for milk will rise.
 - D. Supply for milk will fall.
 - E. Nothing.
- 6.4 Milk and Soft Dark Brown Snack Stuff are complements. If a change in supply causes the price of Soft Dark Brown Snack Stuff to fall, what will happen to the market for milk?
- A. Demand for milk will rise.
 - B. Demand for milk will fall.
 - C. Supply for milk will rise.
 - D. Supply for milk will fall.
 - E. Nothing.
- 6.5 Which of the following is most likely to lower the demand for Bart's Root Beer in Springfield?
- A. Advertising for Bart's Root Beer is increased in Springfield.
 - B. Lisa's Root Beer, a competitor, reduces its price.
 - C. Krusty Kola (another soft drink) increases its price in Springfield stores.
 - D. The weather gets hotter in Springfield.
 - E. The price of Bart's Root Beer rises in Springfield.
- 6.6 Which of the following is most likely to lower the demand for Bart's Root Beer in Springfield?
- A. Incomes of people in Springfield increase.
 - B. The price of water in Springfield rises.
 - C. The price of Homer chips, a crispity-crunchity snack food that tastes good with root beer, rises.
 - D. Springfield schools start their spring break, so kids snack more.
 - E. The price of Bart's Root Beer rises in Springfield.
- 6.7 Which of the following pairs is likely to be a pair of complements?
- A. Aluminum foil and "Handi-Wrap"
 - B. Coca-Cola and Pepsi-Cola
 - C. Dryer's Ice Cream and Chevrolets
 - D. Twinkies and Snickers bars
 - E. Chips Ahoy Cookies and Milk
- 6.8 A good suddenly becomes fashionable. As a result, there will be
- A. movement down this good's demand curve, thus an increase in quantity demanded.
 - B. movement up this demand curve, because a good must be reasonably rare to become fashionable.
 - C. rightward shift in the demand curve for the good.
 - D. leftward shift in the demand curve coupled with a movement down the curve.
 - E. leftward shift in the demand curve.

- 6.9 In the long run, as gasoline prices increase (due to reduced supply), which of the following would economics predict (over time)?
- A. Demand for smaller cars (which tend to use less gasoline than big cars) will decrease.
 - B. Internet shopping (which does not require travel by car) will tend to increase.
 - C. Demand for SUVs and other vehicles that use lots of gasoline would increase.
 - D. Demand for tires (which wear out faster the more people drive) will increase.
 - E. Demand for oil changes (which are required more often the more people drive) will increase.
- 6.10 The Bump® shoes and Flair Gordon™ shoes are substitutes. The supply of Flair Gordon™ shoes rises, causing the price of Flair Gordon™ to fall. What will happen to the market for The Bump® shoes?
- A. Demand for The Bump® shoes will rise.
 - B. Demand for The Bump® shoes will fall.
 - C. Supply for The Bump® shoes will rise.
 - D. Supply for The Bump® shoes will fall.
 - E. Nothing.
- 6.11 If the price of zalooms rises, what else will happen because of this change (in the short run)?
- A. Demand for zalooms will fall.
 - B. Demand for zalooms will rise.
 - C. The supply of zalooms will rise.
 - D. The demand for zaloom substitutes will rise.
 - E. The demand for zaloom complements will rise.
- 6.12 Which of the following would be most likely to cause the supply curve for DVD players to shift to the right?
- A. A decrease in the price of computer chips used to make DVD players.
 - B. An increase in the price of computer chips used to make DVD players.
 - C. A decrease in the demand for DVD players.
 - D. An increase in the price of DVD players.
 - E. A decrease in the price of DVD players.
- 6.13 The supply of a good is most likely to increase if
- A. the price of the good rises.
 - B. new technology becomes available for manufacturing the good.
 - C. prices of resources used to make the good increase.
 - D. the price of the good falls.
 - E. the number of producers of the good falls.
- 6.14 The supply of a good is most likely to increase if
- A. the number of consumers of the good increases.
 - B. consumer fads make the good more popular.
 - C. prices of resources used to make the good decrease.
 - D. income of consumers rise.
 - E. prices of complement goods fall.
- 6.15 Bic disposable razors and shaving cream are complements. Higher costs of manufacturing cause the price of shaving cream to rise. What do you think will happen to Bic razors in equilibrium?
- A. Both the price and quantity sold of Bic razors will rise.
 - B. Both the price and quantity sold of Bic razors will fall.
 - C. The price of Bic razors will rise and quantity sold will fall.
 - D. The price of Bic razors will fall and quantity sold will rise.
 - E. We can't even guess without more information.

- 6.16 If the cost of making Reverse Athletic Shoes falls, what result do you foresee?
A. The price of Reverse shoes will fall.
B. The quantity of Reverse shoes sold will rise.
C. The price of Conbok shoes, a competing product, will fall.
D. The quantity sold of Conbok shoes, a competing product, will fall.
E. All of the above.
- 6.17 If the cost of making Reverse Athletic Shoes falls, what result do you foresee?
A. The price of Reverse shoes will fall.
B. The quantity of Reverse shoes sold will fall.
C. The price of Conbok shoes, a competing product, will rise.
D. The quantity sold of Conbok shoes, a competing product, will rise.
E. Nothing will change.
- 6.18 The supply of haxmatrivs has risen. Other things remaining the same, what will happen?
A. Only price will fall.
B. Only the quantity sold will rise.
C. The quantity sold will rise, as will the price.
D. The quantity sold will rise, but the price will fall.
E. The quantity sold will fall, but the price will rise
- 6.19 Demand for SnootDrainers rises. As a result, in equilibrium,...
A. price will rise. Then, since price has gone up, demand will fall. Everything ends up back where it started.
B. price will fall. Then, supply will fall, reducing demand.
C. price and quantity will both rise (and that's the end of the story).
D. price will rise, so demand will fall as supply rises.
E. sellers will become confused and yell, "BINGO!!!"
- 6.20 Fear of crime raises the demand for handguns. Which of the following will be most likely to happen?
A. The price of guns will fall, and the quantity sold will fall.
B. The price of guns will rise, and the quantity sold will rise.
C. The price of guns will rise, but the quantity sold will fall.
D. The price of guns will fall, but the quantity sold will rise.
E. None of the above.
- 6.21 If the supply of poit were to increase, we predict:
A. an increase in both price and quantity purchased of poit.
B. a decrease in price but increase in quantity purchased of poit.
C. an increase in price but decrease in quantity purchased of poit.
D. a decrease in both price and quantity purchased of poit.
E. we cannot tell without more information.
- 6.22 The demand of dernsquirters has fallen. Other things remaining the same, what will happen?
A. Only price will fall.
B. Only the quantity sold will fall.
C. The quantity sold will fall, as will the price.
D. The quantity sold will rise, but the price will fall.
E. The quantity sold will fall, but the price will rise
- 6.23 If demand for zort were to increase,
A. supply of zort would decrease. B. supply of zort would increase.
C. the price of zort would increase. D. the price of zort would decrease.
E. the quantity of zort purchased would fall.

- 6.24 The supply of zixitols has fallen. Other things remaining the same, what will happen?
- A. Only price will rise.
 - B. Only the quantity sold will rise.
 - C. The quantity sold will fall, as will the price.
 - D. The quantity sold will rise, but the price will fall.
 - E. The quantity sold will fall, but the price will rise.
- 6.25 The price of cigarettes has risen while the quantity of cigarettes smoked has fallen. What explanation can you suggest?
- A. Both supply and demand must have risen.
 - B. Both supply and demand fell.
 - C. Supply fell.
 - D. Demand fell.
 - E. Demand rose.
- 6.26 The price of Purple Blop rises at the same time as the number of stores selling Purple Blop (and thus the quantity of Purple Blop sold) falls. Which is the best explanation?
- A. Demand for Purple Blop has fallen.
 - B. The price of a substitute has risen.
 - C. The price of a complement has fallen.
 - D. The cost of producing Blop has risen.
 - E. The cost of producing Blop has fallen.
- 6.27 The price of Blue Slop falls at the same time as the number of stores selling Blue Slop (and thus the quantity of Blue Slop sold) rises. Which is the best explanation?
- A. Demand for Blue Slop has fallen.
 - B. The price of a substitute has risen.
 - C. The price of a complement has fallen.
 - D. The cost of producing Blue Slop has risen.
 - E. The cost of producing Blue Slop has fallen.
- 6.28 Which result (*ceteris paribus*, and in equilibrium) is most likely in the wine market if the cost of growing grapes falls while the incomes of consumers fall (assume wine is a normal good)?
- A. Wine prices will certainly rise.
 - B. Wine prices will certainly fall.
 - C. The quantity of wine consumed will certainly rise.
 - D. The quantity of wine consumed will certainly fall.
 - E. Certainly, price will fall, and thus quantity consumed will rise.
- 6.29 Which of the following is most likely to result in a lower price of blirks?
- A. The price of blink cleaners is falling, so it is easier and cheaper to clean a blink if you own one.
 - B. The price of nirps, a blink substitute, has fallen.
 - C. An advertising campaign is launched, telling people that "blirks really work!"
 - D. The population is getting larger.
 - E. A researcher finds that blirks prevent cancer, and holds a press conference to announce her discovery.
- 6.30 Which of the following is most likely to result in a lower quantity of riftons being purchased?
- A. The price of rifton batteries, which must be replaced weekly, is rising.
 - B. The price of twimbs, which are rifton substitutes, is rising.
 - C. Bleeks, a costly ingredient in riftons, become cheaper.
 - D. The population is getting larger.
 - E. A law requires that all persons must keep at least one rifton in each automobile.
- 6.31 Which of the following is most likely to result in a lower quantity of riftons being purchased?
- A. Technology enables riftons to be produced with less electricity than was previously possible.
 - B. The price of zeemerts, which are rifton substitutes, is falling.
 - C. Rifton twiddlers, which help you use your rifton safely and properly, become cheaper.
 - D. The population is getting larger.
 - E. Incomes of rifton purchasers are rising.

- 6.32 Flirflits are built using robots. An improvement in robot technology is most likely to
- A. increase the price of flirflits.
 - B. increase the supply of flirflits.
 - C. increase the demand for flirflits.
 - D. reduce the demand for flirflits.
 - E. reduce the number of flirflits sold.
- 6.33 Suddenly, green fleeps become very popular. Which of the following would you not expect to occur?
- A. The price of green fleeps would increase.
 - B. The price of fleep dusters (used to clean green fleeps) would drop.
 - C. The quantity of green fleeps purchased would increase.
 - D. The supply of green fleeps will remain unchanged.
 - E. The quantity of fleep accessories purchased will rise.
- 6.34 A new kind of packaged cookie is introduced and becomes very popular in grocery stores. As a result,
- A. prices of other store-bought cookies will rise.
 - B. the price of milk will tend to rise, if the cookies go well with milk.
 - C. the prices of cookie mixes and prepared cookie dough will rise in stores.
 - D. the prices of candies and snack cakes will tend to rise.
 - E. the price of milk will tend to fall, if the cookies go well with milk
- 6.35 A new kind of packaged cookie is introduced and becomes very popular in grocery stores. As a result,
- A. the prices of other cookies, candies, and snack cakes will tend to fall.
 - B. prices of other store-bought cookies will rise.
 - C. the price of milk will tend to fall, if the cookies go well with milk.
 - D. the prices of cookie mixes and prepared cookie dough will rise in stores.
 - E. the prices of other cookies, candies, and snack cakes will tend to rise.
- 6.36 A new kind of packaged cookie is introduced and becomes very popular in grocery stores. As a result,
- A. the prices of candies and snack cakes will tend to rise.
 - B. prices of other store-bought cookies will rise.
 - C. the price of milk will tend to fall, if the cookies go well with milk.
 - D. the prices of cookie mixes and prepared cookie dough will rise in stores.
 - E. the prices of cookie mixes and prepared cookie dough will fall in stores
- 6.37 A few years ago, the world's biggest plant making computer RAM (memory) chips burned down. Which of the following would you not have expected to happen?
- A. The price of computer memory modules (SIMMs) rose almost immediately.
 - B. The price of computers built with large amounts of memory rose soon after the fire.
 - C. Computer software that substituted for memory in computers soon sold in greater quantity than before the fire.
 - D. Computer software that required computers with large amounts of memory went down in price during the following months.
 - E. In a few months, computer software that depended on large amounts of memory in computers sold in greater quantity than before the fire.

- 6.38 Which of the following would decrease the price of greaselocks while reducing the quantity purchased?
- A. News of an impending cutback in greaselock production causes buyers to fear higher greaselock prices in the future.
 - B. The resources used to make greaselocks become more expensive.
 - C. The number of consumers of greaselocks increases.
 - D. Greasekeys, which are complements to greaselocks, become more expensive.
 - E. Slimelocks, which are substitutes for greaselocks become more expensive.
- 6.39 Which of the following would decrease the price of greaselocks while increasing the quantity sold?
- A. News of an impending cutback in greaselock production causes buyers to fear higher greaselock prices in the future.
 - B. The resources used to make greaselocks become more expensive.
 - C. New technology enables greaselocks to be made with less resources.
 - D. Greasekeys, which are complements to greaselocks, become more expensive.
 - E. Slimelocks, which are substitutes for greaselocks become more expensive.
- 6.40 Which of the following would increase the price of greaselocks while increasing the quantity purchased?
- A. News of an impending cutback in greaselock production causes buyers to fear higher greaselock prices in the future.
 - B. The resources used to make greaselocks become more expensive.
 - C. The number of consumers of greaselocks falls.
 - D. Greasekeys, which are complements to greaselocks, become more expensive.
 - E. Slimelocks, which are substitutes for greaselocks become less expensive.
- 6.41 REALLY! In 1975, your kindly instructor bought a calculator for \$79. Today, a calculator with the same features can be purchased for a dollar. In 1975, few people would be found buying calculators, while many calculators sell today. Which of the following explanations is most consistent with the facts?
- A. The increased demand for calculators forced down their price.
 - B. A change in technology caused the supply of calculators to increase, reducing the price of calculators.
 - C. As the population increased, fewer expensive calculators were needed, causing their price to fall.
 - D. Competition in the calculator industry caused the supply curve to move to the left, reducing price.
 - E. Computer manufacturers bought the chips that used to be used in making calculators, thus reducing supply. As supply fell, price rose, thus reducing demand.
- 6.42 You notice that the price of wunkerdons has fallen while the quantity sold has gone up. Which of the following fits this observation?
- A. The surgeon general must have announced that wunkerdons help prevent heart attacks.
 - B. People must be expecting that price will drop soon as wunkerdons are harvested.
 - C. Wunkerdons have become a fad.
 - D. Wunkerdons are now more costly to make.
 - E. One of the key resources used to make wunkerdons has become less expensive.
- 6.43 The price of scandricks has fallen while the quantity sold has also fallen. Such an event is
- A. caused by an increase in the demand for scandricks.
 - B. caused by a decrease in the demand for scandricks.
 - C. caused by an increase in the supply of scandricks.
 - D. caused by a decrease in the supply of scandricks.
 - E. a violation of the law of demand.

- 6.44 The price of azurite has risen while the quantity sold has also risen. Such an event is
- A. caused by an increase in the demand for azurite.
 - B. caused by a decrease in the demand for azurite.
 - C. caused by an increase in the supply of azurite.
 - D. caused by a decrease in the supply of azurite.
 - E. caused by a decrease in supply accompanied by an increase in demand.
- 6.45 A new, inexpensive substitute for copper wire is discovered at the same time as new copper deposits are discovered and mined. What is the likely result of these events?
- A. The price of copper will fall and more of it will be bought and sold.
 - B. The price of copper will fall and less of it will be bought and sold.
 - C. The price of copper will fall, but we cannot know what will happen to the quantity sold.
 - D. The quantity of copper sold will fall, but we cannot know what will happen to its price.
 - E. The quantity of copper sold will rise, but we cannot know what will happen to its price.
- 6.46 Drought reduces the supply of wheat, at the same time as the demand for wheat falls. From this information, we can expect
- A. The price of wheat will fall and more of it will be bought and sold.
 - B. The price of wheat will rise, but we cannot know what will happen to the quantity sold
 - C. The price of wheat will fall, but we cannot know what will happen to the quantity sold.
 - D. The quantity of wheat sold will fall, but we cannot know what will happen to its price.
 - E. The quantity of wheat sold will rise, but we cannot know what will happen to its price.
- 6.47 The price of ingredients in snirkles falls at the same time as the income of snirkle buyers rises. What is most likely to happen?
- A. Consumption of snirkles will increase, but we can't be sure what happens to the price.
 - B. Price of snirkles will rise, but we can't tell what happens to the quantity purchased.
 - C. Price of snirkles will fall, but we can't tell what happens to the quantity purchased.
 - D. Consumption of snirkles will fall, and the price will rise.
 - E. Consumption of snirkles will fall, but we can't tell what happens to the price.
- 6.48 Which result (*ceteris paribus*, and in equilibrium) is most likely in the premium ice cream if the cost of making ice cream rises while the incomes of consumers fall (assume ice cream is a normal good)?
- A. The quantity of ice cream consumed will certainly rise.
 - B. Ice cream prices will certainly rise.
 - C. The quantity of ice cream consumed will certainly fall.
 - D. Ice cream prices will certainly fall
 - E. Certainly, price will rise, and thus quantity consumed will fall as well.
- 6.49 The price of yertsquealers has remained about the same over time, yet the quantity sold each year has fallen dramatically. What is the best explanation for this?
- A. A fall in demand.
 - B. A fall in supply.
 - C. A rise in demand together with a fall in supply.
 - D. A fall in demand together with an increase in supply.
 - E. A fall in demand together with an decrease in supply.
- 6.50 The price of creeplons has remained about the same over time, yet the quantity sold each year has risen dramatically. What is the best explanation for this?
- A. A rise in demand.
 - B. A rise in supply.
 - C. A rise in demand together with a fall in supply.
 - D. A rise in demand together with an increase in supply.
 - E. A fall in demand together with an decrease in supply.

- 6.51 Between 1960 and 1966, the price of physicians' services increased by 35% (after accounting for inflation). Quantity of services delivered did not change during this time. The best explanation for this is
- A. an increase in supply only.
 - B. an increase in both demand and supply.
 - C. an increase in demand only.
 - D. an increase in demand and a reduction in supply.
 - E. an increase in supply and a reduction in demand.
- 6.52 The price of glipsticks has fallen dramatically over time, yet the quantity sold each year has remained about the same. What is the best explanation for this?
- A. A fall in demand.
 - B. A fall in supply.
 - C. An increase in supply.
 - D. A fall in demand together with an increase in supply.
 - E. A fall in demand together with a decrease in supply.
- 6.53 In light of the factors you know to be determinants of a product's price, which would you expect to observe?
- A. Airplane tickets from Phoenix to Los Angeles will be the same price as tickets from Phoenix to Burbank (which is about as far away as Los Angeles).
 - B. The price actually paid to see a concert that is popular and "sold -out" might be higher than the price one might end up paying to see a less popular concert in the same location
 - C. The rental rate on a U-Haul truck being taken from Phoenix to Los Angeles will be the same as the rate on a truck being taken from Los Angeles to Phoenix, even though there is a net migration of people from L.A. to Phoenix.
 - D. The ticket price of a movie that costs \$100 million to make will always be higher than the ticket price of a movie that costs \$10 million to make.
 - E. Round-trip airline fares will always be exactly twice as expensive as one-way fares.

Multiple-Choice Based on Textbook's End-of-Chapter Questions

- T6.4 Demand for X will fall...
- A. if the price of X rises.
 - B. if the supply of X decreases.
 - C. if the price of a complement for X rises.
 - D. if the price of a substitute for X rises.
 - E. if the number of consumers rises.
- T6.7a Crimnots are built using steel. An increase in the price of steel is most likely to
- A. increase the price of crimnots.
 - B. increase the supply of crimnots.
 - C. increase the demand for crimnots.
 - D. reduce the demand for crimnots.
 - E. increase the number of crimnots sold.
- T6.7b Crimnots are built using steel. An increase in the price of steel is most likely to
- A. decrease the price of crimnots.
 - B. decrease the supply of crimnots.
 - C. increase the demand for crimnots.
 - D. reduce the demand for crimnots.
 - E. increase the number of crimnots sold.
- T6.7c Crimnots are built using steel. An increase in the price of steel is most likely to
- A. decrease the price of crimnots.
 - B. increase the supply of crimnots.
 - C. increase the demand for crimnots.
 - D. reduce the demand for crimnots.
 - E. decrease the number of crimnots sold.
- T6.8 Which of the following would increase the price of greaselocks while reducing the quantity purchased?
- A. News of an impending cutback in greaselock production causes buyers to fear higher greaselock prices in the future.
 - B. The resources used to make greaselocks become more expensive.
 - C. The number of consumers of greaselocks increases.
 - D. Greasekeys, which are complements to greaselocks, become more expensive.
 - E. Slimelocks, which are substitutes for greaselocks become more expensive.

Answers and Explanations

- 6.1 B. Demand changes for several reasons. However, if the price of Purple Glop changes, quantity demanded will change, not demand.
- 6.2 B. Just as changes in the price will cause changes in quantity demanded, but not demand, so will changes in supply. The amount sellers are willing to sell at each price (supply) will not affect the quantity that buyers want to buy at each price (demand); the two are separate.
- 6.3 B. Since they are complements, if the price of SDBSS rises, fewer people will buy SDBSS, and thus will no longer desire milk to go with it. Thus, the demand for milk will fall. Technically, this is true if we assume that the change in price of the SDBSS is due to its supply rising, rather than some change in its demand.
- 6.4 A. Since they are complements, if the price of one falls, the demand for the other will rise. See 5.17
- 6.5 B. Lisa's Root Beer is a substitute, so when its price falls, people buy more Lisa's Root Beer, and fewer people will buy Bart's Root Beer.
- 6.6 C. Homer chips are a complement, so when their price rises, people buy fewer Homer chips and less beer to go with them.
- 6.7 E. Many people consume milk and cookies together. A, B, and D each give a pair of substitutes.
- 6.8 C. Fashion will raise the demand for the good, making the quantity demanded greater at every price. This moves the whole demand curve to the right.
- 6.9 B. As the price of gasoline increases (especially if it is a long-term increase), the demand for substitutes will increase. B is a substitute for using gasoline for shopping. Smaller cars are also substitutes, but A says the demand will decrease (it will increase). Also, the demand for complements will fall, and C, D, and E each say the demand for a complement will increase.
- 6.10 B. When the price of a good falls, the demand for its substitutes will increase. The supply of its substitutes will not change (although quantity supplied will increase).
- 6.11 D. Remember, when a good's price increases, the demand will not fall; rather, quantity demanded of that good will fall. However, demand for substitutes will rise (as consumers seek alternatives) and the demand for complements is likely to fall (as consumers buy less of the good with the higher price, they will also buy less of the good that goes with it).
- 6.12 A. Supply will increase (moving the curve to the right) if the cost of making DVD players falls.
- 6.13 B. The supply of a good is not increased if the price of the good changes, but if costs fall, as might be the case with new technologies, the supply will increase.
- 6.14 C. The prices of resources can affect supply. All of the other options would increase demand.
- 6.15 B. Higher prices of shaving cream will lead to consumers seeking substitutes for it and for razors (such as electric shavers). When the demand for razors falls, the equilibrium price and quantity will fall (people are willing to buy fewer razors and pay less for the razors they buy).
- 6.16 E. Lower cost of Reverse shoes will mean higher supply. This leads to lower price and higher quantity sold of Reverse shoes. Demand for substitutes will fall (as people are drawn to the lower-price Reverse shoes) so Conbok shoe demand will fall. People will buy fewer Conboks and will be willing to pay less for the ones they do buy (since they can get the Reverse shoes so cheaply).
- 6.17 A. Supply of Reverse shoes will rise as costs fall. This will reduce the price of Reverse shoes, but none of the other things listed will occur.
- 6.18 D. Higher supply means sellers are willing to sell more and accept lower prices than before.
- 6.19 C. Higher demand means buyers want to buy a larger amount and are willing to pay more for the amount they are buying.
- 6.20 B. Higher demand means buyers want to buy a larger amount and are willing to pay more for the amount they are buying.

- 6.21 B. Higher supply means sellers are willing to sell more and accept lower prices than before.
- 6.22 C. Lower demand means buyers want to buy a smaller amount and are willing to pay less for the amount they are buying.
- 6.23 C. Higher demand means buyers are willing to pay more for the amount they are buying.
- 6.24 E. Lower supply means sellers are willing to sell less and will require buyers to pay them higher prices than before.
- 6.25 C. Higher price could occur because of higher demand or lower supply. However, if the demand had gone up, the quantity purchased would have gone up as well, so the reason must be lower supply.
- 6.26 D. Higher price could occur because of higher demand or lower supply. However, if the demand had gone up, the quantity purchased would have gone up as well, so the reason must be lower supply. Lower supply is the result of higher costs.
- 6.27 E. Lower price could occur because of lower demand or greater supply. However, if the demand had gone down, the quantity purchased would have gone down as well, so the reason must be higher supply. Higher supply is the result of lower costs.
- 6.28 B. Lower cost of grapes will cause higher supply. Lower consumer income causes lower demand. The effect of the higher supply would be lower prices and higher quantity sold. The effect of the lower demand would be lower prices and lower quantity sold. The quantity effects might counteract each other, but the price will certainly fall.
- 6.29 B. All of the answers involve things that might influence demand. A lower price will result if demand is reduced. The only choice that will reduce demand is if the price of a substitute goes down (all of the others increase demand).
- 6.30 A. A lower quantity being purchased would result if either demand went down or supply went down. Answer C, the only one involving supply, describes an increase in supply, so that's not correct. If batteries for the good, which are complements, go up in price, that will cause a fall in demand. All of the other choices will increase demand.
- 6.31 B. A lower quantity being purchased would result if either demand went down or supply went down. Answer A, the only one involving supply, describes an increase in supply, so that's not correct. If substitutes go down in price, that will cause a fall in demand. All of the other choices will increase demand.
- 6.32 B. Technology increases supply if it lowers costs.
- 6.33 B. Popularity will raise demand for green fleeps. The higher demand will lead to higher green fleep prices, and greater quantity sold. While the quantity supplied goes up, the supply will not. Since consumers are buying more green fleeps, the demand for complements (accessories and cleaners) will rise, raising their prices.
- 6.34 B. Introduction of new cookies will tend to decrease demand for substitutes, reducing the substitutes' prices and quantities. Other cookies, cookie mixes, and candy are probably all substitutes for the cookies, so A, C, and D are incorrect. The demand for the new cookie's complements will rise, pushing up the complements' prices and quantities. Since milk is a complement, then its price will go up.
- 6.35 A. Introduction of new cookies will tend to decrease demand for substitutes, reducing the substitutes' prices and quantities. Other cookies, cookie mixes, and candy are probably all substitutes for the cookies, but A is the only answer that gives the correct direction of the price change. B, D, and E describe change in the wrong direction. The demand for the new cookie's complements will rise, pushing up the complements' prices and quantities (so C has the wrong direction of change).

- 6.36 E. Introduction of new cookies will tend to decrease demand for substitutes, reducing the substitutes' prices and quantities. Other cookies, cookie mixes, and candy are probably all substitutes for the cookies, but E is the only answer that gives the correct direction of the price change. A, B, and D describe change in the wrong direction. The demand for the new cookie's complements will rise, pushing up the complements' prices and quantities (so C has the wrong direction of change).
- 6.37 E. A occurred, both because of the immediate reduction in supply and because of the increase in demand resulting from consumer expectations of future price increases. B occurred because the computers used the RAM as an input, so supply of such computers went down. C occurred because higher prices increased demand for substitutes. D occurred because such software was a complement to the expensive RAM. E did not occur (it's basically the opposite of D). Eventually, other factories expanded, but it took about a year before output was back to pre-fire levels.
- 6.38 D. A decrease in price with a decrease in the quantity purchased could only be caused by a decrease in demand. A would increase demand, B would decrease supply, C would increase demand, as would E. Higher prices of complements will decrease demand, so D is correct.
- 6.39 C. A decrease in the price with an increase in quantity sold can only be caused by an increase in supply. B and C are the only answers that deal with supply. New technology will increase supply, while higher resource costs will lower supply (so B is not correct).
- 6.40 A. An increase in price with an increase in the quantity purchased could only be caused by an increase in demand. B would decrease supply, C would decrease demand, as would D and E. Expectations of higher future prices will increase demand, so A is correct.
- 6.41 B. The question is describing an increase in supply. Only if supply increased could price fall while quantity sold (and bought) rose. I don't have the calculator anymore, but I remember it was a big, clunky Texas Instruments thing, about the size of a current TI-85, and had big red LED numbers. All it did was add, subtract, multiply, divide and do square roots. It went through batteries like crazy and came with an AC adapter so that you could plug it into the wall to save batteries (yes, it used that much power).
- 6.42 E. A decrease in the price with an increase in quantity sold can only be caused by an increase in supply. D and E are the only choices that describe things that affect supply. D would cause a decrease in supply, but E would increase supply.
- 6.43 B. A decrease in price with a decrease in the quantity purchased could only be caused by a decrease in demand. Increases in demand raise both price and quantity. Increases in supply lower price and increase quantity. Decreases in supply raise price and lower quantity.
- 6.44 A. In case you are wondering, azurite is a mineral used in jewelry. An increase in price and quantity sold can only occur if the demand has increased. Decreases in demand lower both price and quantity. Increases in supply lower price and increase quantity. Decreases in supply raise price and lower quantity. If supply decreases while demand is increasing, price would go up, but quantity sold might rise, fall, or stay the same. E would not be correct because the decrease in supply is not necessary to cause the observed change, and may even cause something different to happen.
- 6.45 C. The substitute would reduce demand, while the new copper deposits being mined would increase supply. The reduction in demand will lower price and quantity, while the increased supply would lower price and raise quantity. Both events would thus lower price, but they work in opposite directions from each other with regards to quantity.
- 6.46 D. The fall in supply will raise price and decrease quantity, while the fall in demand would lower price and decrease quantity. The overall price effect is thus uncertain, but both events will lower the quantity bought and sold.
- 6.47 A. Decreasing the price of a resource will increase supply, while higher incomes of consumers will increase demand. The increase in supply will lead to lower price and greater quantity being sold, while the increased demand will lead to higher price and a greater quantity being sold. The price effect is thus uncertain, but more will be sold (and bought or consumed).

- 6.48 C. The higher production costs will reduce supply, while the lower incomes will decrease demand. The effect of lower supply is higher prices and lower quantities being sold, while the decreased demand would cause lower prices and smaller quantities sold. The effects on prices thus pull in two different directions, so we can't be sure where price will end up. However, both the supply and demand changes will cause the quantity sold to go down.
- 6.49 E. If the price has stayed the same but the quantity sold has fallen, demand and supply must be pulling price in opposite directions, but they must both be pulling quantity down. A lower quantity will result if demand falls, and will also result if supply falls.
- 6.50 D. If the price has stayed the same but the quantity sold has risen, demand and supply must be pulling price in opposite directions, but they must both be pulling quantity up. A higher quantity will result if demand rises, and will also result if supply rises.
- 6.51 D. If the price is rising, but the quantity bought (and sold) is not changing, demand and supply must be pulling quantity in opposite directions, but they both must be pulling price up. A higher price will result if supply is reduced, and it will also result if demand is increased.
- 6.52 D. If the price is falling, but the quantity bought (and sold) is not changing, demand and supply must be pulling quantity in opposite directions, but they both must be pulling price down. A lower price will result if supply is increased, and it will also result if demand is decreased.
- 6.53 B. This is especially true if tickets can be resold; popular concert tickets may sell for many times the price printed on the ticket. However, if the concert is not sold out, people who want to see it may still be able to get good seats simply by buying tickets at the box office or ticket outlet. In all cases, the demand and supply both determine the price. If the demands are different for tickets (or trucks) going to different destinations (or in different directions), then the prices may also be different. Costs matter, but they are not the only things that determine price.
- T6.4 C. When the price of a complement for X rises, fewer consumers will buy the complement, and thus fewer consumers will buy X, *ceteris paribus*.
- T6.7a A. Increases in the prices of resources will lower supply. Lower supply will increase product prices.
- T6.7b B. Increases in the prices of resources will lower supply.
- T6.7c E. Increases in the prices of resources will lower supply. A lower supply will decrease the quantity sold, *ceteris paribus*.
- T6.8 B. Increase in price with a decrease in quantity purchased (and sold) could only occur if supply was reduced. All of the choices involve demand changing except for B. If resources become more expensive, that would decrease supply.

Chapter 7

General Multiple-Choice Questions

- 7.1 When a market is in equilibrium,
A. quantity demanded equals quantity supplied.
B. there is no tendency for price to change.
C. the marginal utility of buyers is just about equal to the marginal cost of sellers.
D. every unit of the good that is valued more highly than its cost will be produced and sold.
E. all of the above are correct.
- 7.2 When a market is in equilibrium,
A. quantity demanded exceeds quantity supplied.
B. there is a tendency for price to change.
C. the marginal utility of buyers is just about equal to the marginal cost of sellers.
D. every unit of the good that is valued less highly than its cost will be produced and sold.
E. no units of the good that create more utility than has to be given up to produce them are made.
- 7.3 When a market is in equilibrium,
A. quantity demanded exceeds quantity supplied.
B. there is a tendency for price to change.
C. the marginal utility of buyers is less than the marginal cost of sellers.
D. every unit of the good that is valued less highly than its cost will be produced and sold.
E. no units of the good that create less utility than has to be given up to produce them are made.
- 7.4 When a market is in equilibrium,
A. quantity demanded exceeds quantity supplied.
B. there is a tendency for price to change.
C. the marginal utility of buyers is less than the marginal cost of sellers.
D. every unit of the good that is valued more highly than its cost will be produced and sold.
E. no units of the good that create more utility than has to be given up to produce them are made.
- 7.5 If the current market price of plotskins is greater than the marginal opportunity cost of making them,
A. resources will eventually move into the making of more plotskins.
B. price will remain unchanged as long as supply and demand do not change.
C. the market price of plotskins will rise over time.
D. fewer producers will wish to produce plotskins in the future.
E. the market is in equilibrium.
- 7.6 If Mrs. Bromley is willing to pay \$40 for a DVD, but can buy it for a price of \$30, her consumer surplus is
A. \$40 B. \$30 C. \$10 D. \$70 E. \$75
- 7.7 A price ceiling
A. is a price above the equilibrium. B. is what the minimum wage is.
C. is a price kept artificially low. D. will cause a surplus.
E. is the same as a price floor.
- 7.8 When a price ceiling is imposed below the equilibrium price, it
A. generally results in more than an efficient amount of trade taking place.
B. will result in a surplus.
C. eliminates unpleasant competition for scarce goods.
D. assures that a scarce good ends up in the hands of the person who values the good the most.
E. results in shortages, and may lead to discrimination on the part of sellers.

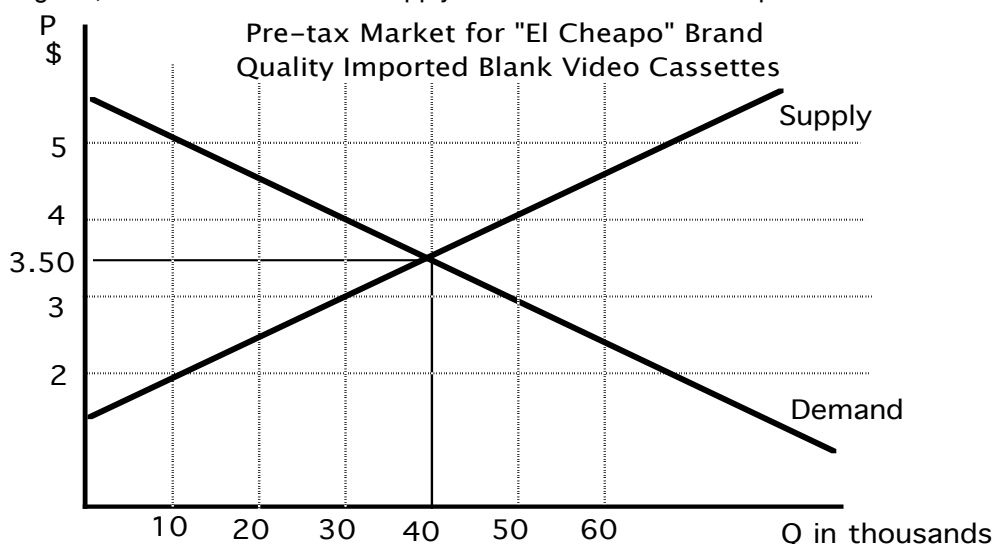
- 7.9 A shortage in the market of a good will persist if (and only if)
A. price is above equilibrium. B. price is at "equilibrium."
C. price is kept artificially low. D. the demand curve slopes downward.
E. the good has an upward-sloping demand curve.
- 7.10 If the prices of all new cars were, by law, limited to \$5000
A. a larger quantity of new cars would be purchased each year.
B. buyers would see no decrease in the quality of new cars
C. since more cars would be sold, more new car producers and dealers would enter the market.
D. the number of car producers would fall, and fewer cars would be made.
E. a larger quantity of new cars would be made each year.
- 7.11 If the number of parking spaces available for students on campus is regularly smaller than the number of students looking for parking spaces, the persistent shortage of spaces indicates that
A. the price for parking is lower than equilibrium.
B. the price for parking is higher than equilibrium.
C. the equilibrium price for parking is being charged.
D. requiring students to carpool is the only way to relieve the shortage.
E. students don't respond to incentives regarding their driving habits.
- 7.12 All of the apartments in Santa Monica, California are subject to rent control. The rent control price is set below the market equilibrium price. Economic theory suggests that this rent control price would probably
A. reduce the quantity of apartments desired (demanded) by renters.
B. increase landlord's profits.
C. cause many rental units to be poorly maintained by the landlord.
D. result in a surplus of rental units in the near future.
E. reduce housing discrimination against minorities
- 7.13 A price ceiling of fifty cents per pound is placed on steaks sold at grocery stores (to make it more affordable). What results would you expect?
A. It would be just as easy to find good steak at the supermarket as it is now.
B. The quantity of steak purchased at the supermarket would rise.
C. People with low incomes would eat more steak than they can now.
D. All buyers of steak would be better off than they are now.
E. The amount of steak purchased at the grocery stores would be lower than it is now.
- 7.14 A price ceiling of \$1 per pound is placed on steaks sold at grocery stores (to make it more affordable). What results would you expect?
A. It would be just as easy to find good steak at the supermarket as it is now.
B. The quantity of steak purchased at the supermarket would rise.
C. People with low incomes would eat more steak than they can now.
D. All buyers of steak would be better off than they are now.
E. The quantity of steak eaten at restaurants would rise
- 7.15 If a law is passed that keeps the price of a good above its equilibrium price,
A. it is called a price ceiling.
B. it will cause a decrease in the quantity of the good supplied in the short run.
C. it will cause a decrease in the incentive to expand the future supply of the good.
D. it will cause a surplus of the good.
E. it will cause a shortage of the good.
- 7.16 A surplus in the market of a good will persist if (and only if)
A. price is kept above equilibrium. B. price is at "equilibrium."
C. price is kept artificially low. D. the good is no longer scarce.
E. the good has an upward-sloping demand curve.

- 7.17 A surplus of a good means
A. that the good is not scarce.
B. that the equilibrium price of the good is zero.
C. that the price of the good is now above equilibrium levels.
D. that the supply of the good must fall in the future.
E. that the price of the good is now below equilibrium levels.
- 7.18 An increase in the minimum wage will cause
A. fewer people to be unemployed.
B. less job discrimination in the job market.
C. fewer people to be on welfare and unemployment.
D. unskilled workers to have more difficulty finding jobs.
E. skilled and employed workers to get paid less.
- 7.19 Increases in the minimum wage will probably
A. create some unemployment.
B. increase the demand for uneducated workers.
C. cause a shortage of labor.
D. Increase employment opportunities for unskilled workers.
E. eliminate poverty.
- 7.20 Which of the following are most likely to benefit from increases in the minimum wage?
A. Unproductive workers. B. Skilled union workers.
C. Teenagers looking for their first job. D. Inexperienced workers.
E. Uneducated workers.
- 7.21 Suppose a new law went into effect that required that all college students (part-time or full time) be paid a wage of at least \$25 per hour by their employers. What would you expect to happen?
A. More college students would be employed because of the law.
B. There would be a shortage of college students willing to work at the new wage.
C. All college students would be better off after the law went into effect.
D. Wages of college students would tend to rise even higher than the \$25 amount.
E. Fewer college students would be employed because of the law.
- 7.22 Suppose a new law went into effect that required that all college students (part-time or full time) be paid by their employers at least \$25 per hour. What would you expect to happen?
A. More college students would be employed because of the law.
B. More people who are not college students would be employed because of the law.
C. College enrollments would increase because of the law.
D. The wages of people who are not college students would fall.
E. The price of college textbooks and materials would rise somewhat.
- 7.23 Which of the following is true?
A. When a price is kept above the equilibrium level by law, more of the good will actually be purchased than would be the case in equilibrium.
B. When a price is kept below the equilibrium level by law, less of the good will actually be purchased than would be the case in equilibrium.
C. A surplus of a good generally means that the good is no longer scarce.
D. Consumer surplus is the excess of quantity demanded over quantity supplied.
E. Producer surplus is the excess of quantity supplied over quantity demanded.

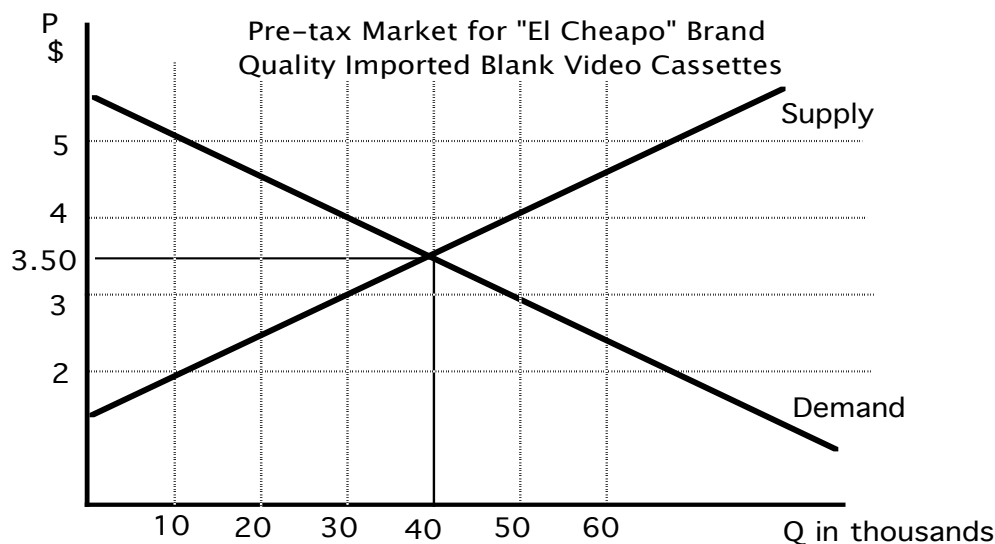
- 7.24 Which of the following is not a true statement about taxes?
- A. Taxes can be avoided, which is one reason why they reduce utility and efficiency.
 - B. When a tax is imposed, the price paid by the buyer of a good will generally rise by less than the full amount of the tax.
 - C. When a tax is imposed, the quantity of a good that is sold could rise, could fall, or could stay unchanged; we can't predict the result without more information.
 - D. Part of a good's tax is paid by buyers out of consumer surplus, and part is paid by sellers out of producer surplus.
 - E. A tax on a good is paid mostly by buyers if the demand curve is steeper than the supply curve.
- 7.25 Which of the following is not a true statement about taxes?
- A. The excess burden of a tax is greater if the demand or supply curves (or both) are flat.
 - B. In reality, a tax is borne (paid) mostly by the suppliers, if they are the ones who send the money to the government.
 - C. Every tax has an excess burden (sometimes called deadweight loss).
 - D. Part of every tax is paid by buyers out of consumer surplus, and part is paid by sellers out of producer surplus.
 - E. The revenue to the government from an excise tax is the tax per unit multiplied by the quantity of the good that is sold after the tax goes into effect.
- 7.26 Which of the following is not a true statement about taxes?
- A. The excess burden of a tax is greater if the demand or supply curves (or both) are flat.
 - B. In reality, a tax is borne (paid) mostly by the suppliers only if the supply curve is steeper than the demand curve. If the demand curve is steeper than the supply curve, buyers pay most of the tax.
 - C. Every tax has an excess burden (sometimes called deadweight loss).
 - D. Part of every tax is paid by buyers out of consumer surplus, and part is paid by sellers out of producer surplus.
 - E. The revenue to the government from an excise tax is the tax per unit multiplied by the quantity of the good that is sold before the tax goes into effect.
- 7.27 Which of the following is not a true statement about taxes?
- A. The excess burden of a tax is greater if the demand or supply curves (or both) are steep.
 - B. In reality, a tax is borne (paid) mostly by the suppliers only if the supply curve is steeper than the demand curve. If the demand curve is steeper than the supply curve, buyers pay most of the tax.
 - C. Every tax has an excess burden (sometimes called deadweight loss).
 - D. Part of every tax is paid by buyers out of consumer surplus, and part is paid by sellers out of producer surplus.
 - E. The revenue to the government from an excise tax is the tax per unit multiplied by the quantity of the good that is sold after the tax goes into effect.
- 7.28 Which of the following is not a true statement about taxes?
- A. The excess burden of a tax is greater if the demand or supply curves (or both) are flat.
 - B. In reality, a tax is borne (paid) mostly by the suppliers only if the supply curve is flatter than the demand curve. If the demand curve is flatter than the supply curve, buyers pay most.
 - C. Every tax has an excess burden (sometimes called deadweight loss).
 - D. Part of every tax is paid by buyers out of consumer surplus, and part is paid by sellers out of producer surplus.
 - E. The revenue to the government from an excise tax is the tax per unit multiplied by the quantity of the good that is sold after the tax goes into effect.

- 7.29 Which phrase in this line of thought is economically incorrect?
- A. If the tax on cigarettes is increased, the price of cigarettes will rise.
 - B. When the price of cigarettes rises, the demand for cigarettes will fall.
 - C. With lower demand for cigarettes, the price will tend to fall.
 - D. With lower demand for cigarettes, the quantity purchased will fall.
 - E. If the quantity purchased falls, so must the quantity sold, in equilibrium.

"El Cheapo" is a new brand of videotape in Phoenix stores. Questions 30-38 refer to the following diagram, which is Phoenix area supply and demand for "El Cheapo."



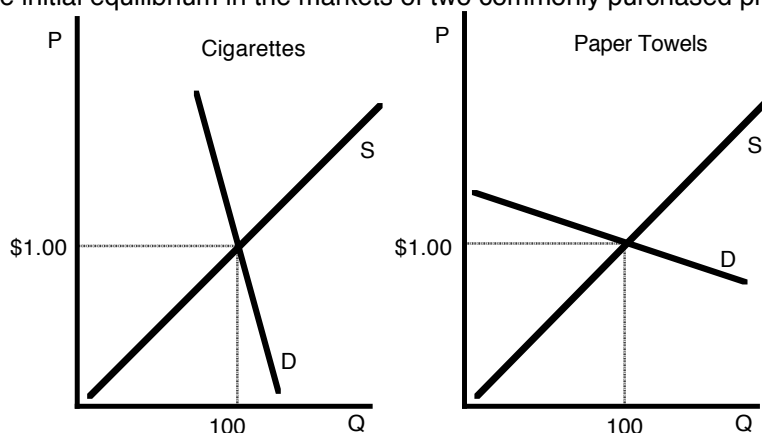
- 7.30 (See diagram above.) Suppose a special tax of one dollar is placed on each videotape purchased, to discourage people from becoming "couch potatoes." By how much will the final price paid (ignoring other taxes like State sales tax) for "El Cheapo" rise? (hint: it may help you to draw in the appropriate curves)
- A. Not at all.
 - B. About fifty cents.
 - C. About one dollar.
 - D. More than one dollar.
 - E. Cannot tell.
- 7.31 (See diagram above.) Suppose a special tax of one dollar is placed on each videotape purchased. How many "El Cheapo" videotapes will be purchased after the tax is in place?
- A. About 10 thousand.
 - B. About 20 thousand.
 - C. About 30 thousand.
 - D. About 40 thousand.
 - E. More than 40 thousand or I cannot tell.
- 7.32 (See diagram above.) Suppose a special tax of one dollar is placed on each videotape purchased. What is the total tax revenue raised by the government from the sale of "El Cheapo" tapes?
- A. About 10 thousand dollars or less.
 - B. About 20 thousand dollars.
 - C. About 30 thousand dollars.
 - D. About 40 thousand dollars.
 - E. More than 40 thousand dollars or I cannot tell.
- 7.33 (See diagram above.) Suppose a special tax of one dollar is placed on each videotape purchased. The proportion (percentage) of the total tax payment that is effectively paid by the "El Cheapo" producers, out of producer surplus, is
- A. About one-fourth.
 - B. About one-third.
 - C. About one-half.
 - D. Less than one-fourth.
 - E. More than one-half, or I cannot tell.



- 7.34 (See diagram above.) Suppose a special tax of two dollars is placed on each videotape purchased. By how much will the final price paid (ignoring other taxes like State sales tax) for "El Cheapo" rise? (hint: it may help you to draw in the appropriate curves)
- A. Not at all. B. About fifty cents.
C. About one dollar. D. More than one dollar.
E. Cannot tell.
- 7.35 (See diagram above.) Suppose a special tax of two dollars is placed on each videotape purchased. How many "El Cheapo" tapes will be purchased after the tax is in place?
- A. About 10 thousand. B. About 20 thousand.
C. About 30 thousand. D. About 40 thousand.
E. More than 40 thousand or I cannot tell.
- 7.36 (See diagram above.) Suppose a special tax of two dollars is placed on each videotape purchased. What is the total tax revenue raised by the government from sales of "El Cheapo" tapes?
- A. About 10 thousand dollars or less. B. About 20 thousand dollars.
C. About 30 thousand dollars. D. About 40 thousand dollars.
E. More than 40 thousand dollars or I cannot tell.
- 7.37 (See diagram above.) Suppose a special tax of three dollars is placed on each videotape purchased. What is the total tax revenue raised by the government from sales of "El Cheapo" tapes?
- A. About 10 thousand dollars or less. B. About 20 thousand dollars.
C. About 30 thousand dollars. D. About 40 thousand dollars.
E. More than 40 thousand dollars or I cannot tell.
- 7.38 (See diagram above.) Suppose a special tax of three dollars is placed on each videotape purchased. The proportion (percentage) of the total tax payment that is paid by the producers of the tapes is
- A. About one-fourth. B. About one-third.
C. About one-half. D. Less than one-fourth.
E. More than one-half, or I cannot tell.

- 7.39 As an excise tax on a good is increased, what will happen to the revenues raised by the government from the tax? (hint: refer to 7.32., 7.36, and 7.37)
- Revenues always increase as the excise tax is increased.
 - Revenues always fall as the excise tax is increased.
 - At low tax rates, an increase in the tax will increase revenue. At higher tax rates, raising the tax rate will reduce revenue.
 - At low tax rates, an increase in the tax will decrease revenue. At higher tax rates, raising the tax rate will increase revenue.
 - Revenues may go up or may go down, but there is no way to tell which will happen.
- 7.40 The supply curve for a particular kind of labor is relatively steep, while the demand curve is fairly flat. If a new payroll (salary) tax is imposed, what would you predict?
- The after-tax (take home) pay of workers will rise.
 - The after-tax (take-home) pay of workers will not be affected.
 - Most of the tax will be absorbed by employees.
 - Most of the tax will be absorbed by employers.
 - The number of employees hired will rise.
- 7.41 The supply curve for a particular kind of labor is relatively flat, while the demand curve is fairly steep. If a new payroll (salary) tax is imposed, what would you predict?
- The after-tax (take home) pay of workers will rise.
 - The after-tax (take-home) pay of workers will not be affected.
 - Most of the tax will be absorbed by employees.
 - Most of the tax will be absorbed by employers.
 - The number of employees hired will rise.

Consider the initial equilibrium in the markets of two commonly purchased products:



- 7.42 If the government imposes a 50-cent per unit tax on each good, the burden or incidence of the tax
- will fall more heavily on buyers in the case of cigarettes than in the case of paper towels.
 - will fall more heavily on buyers in the case of paper towels than in the case of cigarettes.
 - will effect buyers in the cigarette market in the same way as those in the paper towel market.
 - will fall entirely upon buyers in both markets.
 - will fall entirely upon sellers in both markets.
- 7.43 If the government could charge a 50-cent tax on only one of the above goods,
- it would get the greatest revenue by putting the tax on cigarettes.
 - it would get the greatest revenue by putting the tax on paper towels.
 - the excess burden would be smaller if the tax were put on paper towels.
 - the government would raise the same amount of money regardless of which product it taxes.
 - the excess burden of the tax is the same whether the tax is put on cigarettes or on paper towels.

- 7.44 Suppose a new snack-food tax is imposed in Arizona. Every candy bar or box of cookies that is sold will be charged 25 cents tax, to be paid by the seller to the government. What do you expect will happen to the price of a candy bar as paid by buyers?
- A. The price paid by the buyers will rise by more than 25 cents.
 - B. Since the tax is charged to the sellers, the price paid by the buyers will not change at all.
 - C. The price paid by the buyers will rise by less than 25 cents.
 - D. The price paid by the buyers will fall by less than 25 cents
 - E. The price paid by the buyers will fall by more than 25 cents
- 7.45 If the sellers of a product are taxed, can the sellers simply pass the entire tax on to the buyers of the product?
- A. Yes, since the sellers can set whatever price they desire, they can raise price by the entire amount of the tax without affecting sales. However, it is not considered good customer relations.
 - B. No, the tax laws prohibit such actions on the part of sellers.
 - C. No, the law of demand makes it illegal for sellers to do so.
 - D. No, the amount of tax that can be passed on to buyers is limited by demand and supply.
 - E. Yes, it is standard business practice to do so.
- 7.46 Assume that luxury yachts are produced by boatwrights who have few other skills. Also, assume that yacht buyers have many sources from which to buy yachts, both in the U.S. and in other countries. What effects would you expect from a tax of \$5000 on every US yacht?
- A. The tax will reduce the quantity of yachts sold.
 - B. The tax will drive buyers elsewhere, and put yacht builders out of work.
 - C. Most of the tax will be borne by the sellers in the form of lower take-home price.
 - D. The excess burden will be quite large, since the demand curve is flat.
 - E. All of the above.
- 7.47 Suppose Pat and Chris each earn the same salary and work just as hard (the same number of hours). They work for different employers, doing different kinds of work. Pat's employer would find it difficult to replace Pat, while many other people have the skills to do Chris's job. Chris has little training to do other kinds of work, while Pat has skills suited to many occupations and positions. If new taxes are imposed on all employees, what can you say about the future take-home (after-tax) pay of these people?
- A. Pat's take-home pay will fall by more than Chris's
 - B. Chris's take-home pay will fall by more than Pat's.
 - C. Pat's take-home pay will rise by more than Chris's
 - D. Chris's take-home pay will rise by more than Pat's.
 - E. Both Pat and Chris will have the same take-home pay in the future, after the tax.
- 7.48 A tax is imposed on Unicorn Chips, a product with no good substitutes. The product's supply curve is not particularly flat or steep. Based on the kind of demand curve you might expect for such a product, what can you say about who probably pays the tax?
- A. Buyers pay most of it.
 - B. Sellers pay most of it.
 - C. Buyers and sellers pay equal shares of it.
 - D. We cannot tell, since knowing about demand doesn't help us.
 - E. We don't have enough information about demand to answer
- 7.49. Red Herrings have a steep supply curve, and a relatively flat demand curve. The government wants to impose a \$1 tax on each Red Herring sold. The tax will probably
- A. be paid mostly by sellers.
 - B. be paid mostly by buyers.
 - C. be paid equally by sellers and buyers.
 - D. be paid entirely by buyers.
 - E. be paid by sellers and buyers in a way we can't determine.

- 7.50 After a \$1 tax is imposed on Red Herrings, the price paid by consumers is likely to be
A. more than \$1 higher than before the tax. B. less than \$1 higher than before the tax.
C. exactly \$1 higher than before the tax. D. less than \$1 lower than before the tax.
E. more than \$1 lower than before the tax.
- 7.51 After a \$1 tax is imposed on Red Herrings, the price received by producers is likely to be
A. more than \$1 higher than before the tax. B. less than \$1 higher than before the tax.
C. exactly \$1 higher than before the tax. D. less than \$1 lower than before the tax.
E. more than \$1 lower than before the tax.
- 7.52 A tax is imposed on Blistermints, the red-hot-freezing-cold breath mints. The deadweight loss (also known as the "excess burden") of the tax is likely to be largest if
A. Supply and demand are both flat. B. Supply and demand are both steep.
C. Blistermints cause blisters on your tongue. D. Demand is flat and supply is steep.
E. Demand is steep and supply is flat.
- 7.53. Congressman Concussion wants to impose a 25-cent tax on every cassette tape sold, because he thinks loud music warps the minds of American youth. He can't decide whether to impose the tax on the cassette producers, or to make the buyers pay the tax when they purchase the tape. What would you tell him?
A. Buyers pay less of the tax if you charge the tax to producers.
B. Buyers pay less of the tax if you charge them directly when they buy the tape.
C. The deadweight loss is bigger if you charge the tax to buyers.
D. The deadweight loss is bigger if you charge the producers.
E. It is irrelevant whom you impose the tax upon; the deadweight loss, amount of tax collected, and the burden of who pays the tax will not depend on whom you charge.
- 7.54 A tax on an item will raise the price paid by consumers for the good, while reducing the quantity actually sold. From this perspective, the effects of a tax resemble the effects of
A. an increase in demand. B. a reduction in supply.
C. a reduction in demand. D. an increase in supply.
E. a reduction in supply and an increase in demand.
- 7.55 A tax on an item will lower the price that sellers keep when they sell a good and will also lower the quantity actually sold. Thus, from the seller's perspective, the effects of a tax resemble the effects of
A. an increase in demand. B. a reduction in supply.
C. a reduction in demand. D. an increase in supply.
E. a reduction in supply and an increase in demand.
- 7.56 Senator Busybody wants to reduce the consumption of unhealthy food. She sponsors a law that places an excise tax on all fatty meat and snacks. The money raised from the tax is used to pay for advertisements that are intended to lower demand for such food. Which result would indicate for certain that the advertisements have lowered demand for the fatty food?
A. Any reduced consumption of fatty food.
B. Reduced consumption of fatty food that is accompanied by higher prices (at the consumer level) on the food.
C. Reduced consumption of fatty food that is accompanied by lower prices (at the consumer level) on the food.
D. Higher prices for fatty food at the consumer level.
E. Lower prices for fatty food at the consumer level.

- 7.57 Senator Busybody wants to reduce the consumption of unhealthy food. She sponsors a law that places an excise tax on all fatty meat and snacks. The money raised from the tax is used to pay for advertisements that are intended to lower demand for such food. Which result would you expect from the tax (alone) on the fatty food?
- A. Any reduced consumption of fatty food.
 - B. Reduced consumption of fatty food that is accompanied by higher prices (at the consumer level) on the food.
 - C. Reduced consumption of fatty food that is accompanied by lower prices (at the consumer level) on the food.
 - D. Higher prices for fatty food at the consumer level.
 - E. Lower prices for fatty food at the consumer level.
- 7.58 The deadweight loss or excess burden of a tax is
- A. proportional to the reduction in trade that the tax causes.
 - B. inversely related to the dollar amount of the tax per unit.
 - C. inversely related to the reduction in trade that the tax causes.
 - D. unrelated to the dollar amount of the tax.
 - E. unrelated to the reduction in trade that the tax causes.
- 7.59 The deadweight loss or excess burden of a tax is
- A. inversely related to the dollar amount of the tax per unit.
 - B. inversely related to the reduction in trade that the tax causes.
 - C. unrelated to the dollar amount of the tax.
 - D. unrelated to the reduction in trade that the tax causes.
 - E. proportional to the dollar amount of the tax.
- 7.60 The Laffer curve emphasizes that
- A. the size of the tax base depends on the tax rate.
 - B. deficits may affect interest rates.
 - C. aggregate demand depends on the tax rate.
 - D. raising tax rates increase tax revenues.
 - E. progressive taxes take a larger proportion of income as income rises.
- 7.61 The average tax rate is
- A. the additional income earned divided by the additional taxes that must be paid on the additional income.
 - B. the taxes collected in the economy divided by all of the economic activity in the economy.
 - C. the additional amount of tax collected on each additional dollar of income earned.
 - D. the amount of tax paid by a person or family divided by that person's or family's income.
 - E. the income of a person or family divided by that person's or family's taxes.
- 7.62 The marginal tax rate is
- A. the amount of tax paid by a person or family divided by that person's or family's income.
 - B. the income of a person or family divided by that person's or family's taxes.
 - C. additional income earned divided by the additional taxes that must be paid on the additional income.
 - D. the taxes collected in the economy divided by all of the economic activity in the economy.
 - E. additional taxes that must be paid on additional income divided by the additional income earned.

- 7.63 When a worker is contemplating working additional hours, which is most important in influencing his or her decision?
- A. The total amount of tax he or she is now paying.
 - B. The total amount of tax he or she will pay if the additional hours are worked.
 - C. The marginal tax rate.
 - D. The average tax rate.
 - E. The Laffer Curve.
- 7.64 Which is most important in personal decision-making?
- A. The total amount of tax he or she is now paying.
 - B. The total amount of tax he or she will pay if the additional hours are worked.
 - C. The marginal tax rate.
 - D. The average tax rate.
 - E. The Laffer Curve.
- 7.65 Last year, Bob Enweave earned \$35,000 and paid \$7,000 in taxes. This year, he earned \$40,000 and paid \$10,000 in taxes. What is his marginal tax rate, assuming that the tax laws have not changed?
- A. 43% B. 30% C. 25% D. 20% E. 60%
- 7.66 Last year, Leslie Vome earned \$60,000 and paid \$30,000 in taxes. This year, she earned \$66,000 and paid \$34,000 in taxes. What is her marginal tax rate, assuming that the tax laws have not changed?
- A. 13.3% B. 40% C. 50% D. 51.5% E. 66.7%
- 7.67 Last year, Pat Iho earned \$20,000 and paid \$3,000 in taxes. This year, Pat earned \$25,000 and paid \$5,000 in taxes. What is Pat's marginal tax rate, assuming that the tax laws have not changed?
- A. 30% B. 40% C. 20% D. 15% E. 66.7%
- 7.68 To determine whether a tax is regressive, progressive, or proportional, we examine
- A. how the average tax rate changes as income changes.
 - B. how recent the tax laws are.
 - C. how the tax rates affect actual tax revenues.
 - D. how the marginal tax rate changes as income changes.
 - E. how the total amount of tax changes as income changes.
- 7.69 A progressive tax
- A. takes a higher percentage of income from people of higher income levels.
 - B. takes a smaller percentage of income from people of higher income levels.
 - C. does not impede progress.
 - D. is the opposite of a Congressional tax.
 - E. takes the same percentage from persons of all income levels.
- 7.70 Which of the following would be a regressive tax?
- A. One that takes the same proportion of each person's income from him or her.
 - B. One that takes a larger proportion of a person's income as his or her income rises.
 - C. One that fights progress and wants to return to the "good old days."
 - D. One that takes a smaller percentage of income from the poor than it takes from the wealthy.
 - E. One that takes the same number of dollars from each person, regardless of income.

- 7.71 Which statement is false?
- A. As marginal tax rates increase, the percentage of each additional dollar earned that the taxpayer is permitted to keep will decline.
 - B. A tax that takes the same number of dollars from each taxpayer is regressive.
 - C. A tax that takes more money (in dollars) from a low-income taxpayer than it does from a high-income taxpayer must be regressive.
 - D. A tax that takes the same proportion of a low-income taxpayer's earnings as it takes of a high-income taxpayer's earning is progressive.
 - E. It is possible for a tax to be regressive, even if it takes more dollars from wealthy taxpayers than it takes from poor ones.
- 7.72 Suppose that all families buy about the same amount of gasoline every year, regardless of their income level. Gasoline excise taxes would then be
- A. normative.
 - B. progressive.
 - C. regressive.
 - D. proportional.
 - E. incidental.
- 7.73 Income tax rates rise as income goes up. Social Security tax rates are a percentage of a person's salary (the percentage does not go up as income rises) up to a certain income. Any money earned above that "cut-off" income is not charged Social Security taxes at all. Thus,
- A. Social Security taxes are proportional.
 - B. Social Security taxes are regressive for those above the "cut-off" income.
 - C. income taxes are proportional for everybody.
 - D. Social Security taxes are progressive.
 - E. Income taxes are regressive.
- 7.74 A flat-rate tax program that taxes everyone nothing on the first \$25,000 earned and 20% of the amount by which his or her income is over \$25,000 would be (overall)
- A. congressional
 - B. proportional
 - C. recessive
 - D. progressive
 - E. regressive

Multiple-Choice Based on Textbook's End-of-Chapter Questions

- T7.1 Consumer surplus
- A. is a measure of how many more producers than consumers there are for a product.
 - B. is a measure of how many more consumers than producers there are for a product.
 - C. is the excess of the price buyers would be willing to pay for a good over the price they actually pay.
 - D. occurs when price is kept artificially low.
 - E. occurs when price is kept artificially high.
- T7.2 Producer surplus
- A. is a measure of how many more producers than consumers there are for a product.
 - B. is the excess of the price buyers would be willing to pay for a good over the price they actually pay.
 - C. is the difference between the price sellers get paid for a good and the price they would be willing to sell it for.
 - D. is a measure of how many more consumers than producers there are for a product.
 - E. occurs when price is kept artificially low.
- T7.3a When a market is in equilibrium,
- A. producer surplus equals consumer surplus.
 - B. the losses of buyers exactly equal gains of sellers.
 - C. consumer surplus always exceeds producer surplus.
 - D. producer surplus always exceeds consumer surplus.
 - E. the total gains from trade, including consumer surplus and producer surplus, are maximized.
- T7.3b At equilibrium,
- A. producers gain at the expense of consumers.
 - B. producer surplus must be less than consumer surplus.
 - C. the total gains from trade to buyers and sellers is maximized.
 - D. the consumers gain at the expense of producers.
 - E. producers have a surplus but consumers do not.
- T7.4 At equilibrium, how are goods rationed?
- A. Anyone who values the good at all will get the good.
 - B. Anyone who values the good at least as much as the good costs society, in utility given up, gets the good.
 - C. Anyone who values the good less than the good costs society, in terms of utility given up, gets it.
 - D. Anyone who is willing to wait in line and spend time to acquire the good will get the good.
 - E. Anyone who has characteristics that producers value, such as pleasant features and a good sense of humor, will get the good.
- T7.5 If a price ceiling is imposed on a good, below the equilibrium price, how will it affect the quantity of the good that is bought and sold?
- A. A price ceiling will have no impact on the quantity exchanged.
 - B. By increasing the quantity supplied, a price ceiling will increase the quantity exchanged.
 - C. By reducing the quantity demanded, a price ceiling will reduce the quantity exchanged.
 - D. By increasing the quantity demanded, a price ceiling will increase the quantity exchanged.
 - E. By reducing the quantity supplied, a price ceiling will reduce the quantity exchanged.

- T7.6 If a price floor is imposed on a good, above the equilibrium price, how will it affect the quantity of the good that is bought and sold?
- A. A price floor will have no impact on the quantity exchanged.
 - B. By increasing the quantity supplied, a price floor will increase the quantity exchanged.
 - C. By reducing the quantity demanded, a price floor will reduce the quantity exchanged.
 - D. By increasing the quantity demanded, a price floor will increase the quantity exchanged.
 - E. By reducing the quantity supplied, a price floor will reduce the quantity exchanged.
- T7.7 How do price ceilings change how a good is rationed?
- A. They do not.
 - B. Since consumers cannot use the money price they are willing to pay to indicate the value they place on the good, they must compete to obtain the good from sellers in other ways.
 - C. Price ceilings increase the total benefits from trade. Thus, the luxury of being selective about characteristics of trading partners is more affordable for sellers.
 - D. Price ceilings push demand curves to the right, giving buyers power over sellers.
 - E. Price ceilings push supply curves to the right, giving sellers power over buyers.
- T7.8 Suppose that the minimum wage is doubled from the current level. Which of the following might be helped by the new minimum wage in finding employment?
- A. High-skill workers who provide good substitutes for the labor services offered by low-skill workers.
 - B. Ex-felons who have never had an honest job and are hoping to "go straight."
 - C. People in skill categories previously earning less than the new minimum.
 - D. Teenagers looking for their first job.
 - E. Low-skill workers looking for a job offering on-the-job training.
- T7.9a Suppose that college students in Phoenix convinced of the city council to enact a law setting the maximum price for rental housing at \$50 per month. What impact will this have?
- A. The amount of racial and other types of discrimination in the local rental housing market would fall.
 - B. It would be just as easy for students to find housing as before.
 - C. The quality of rental housing would go up over time.
 - D. The amount of rental housing available would fall.
 - E. The incentive of landlords to maintain their property would be enhanced.
- T7.9b Suppose that college students in Phoenix convinced of the city council to enact a law setting the maximum price for rental housing at \$50 per month. What impact will this have?
- A. The amount of racial and other types of discrimination in the local rental housing market would fall.
 - B. It would be just as easy for students to find housing as before.
 - C. The quality of rental housing would go up over time.
 - D. The amount of rental housing available would rise.
 - E. The incentive of landlords to maintain their property would be reduced.
- T7.9c Suppose that college students in Phoenix convinced of the city council to enact a law setting the maximum price for rental housing at \$50 per month. What impact will this have?
- A. The amount of racial and other types of discrimination in the local rental housing market would fall.
 - B. It would be just as easy for students to find housing as before.
 - C. The quality of rental housing would fall over time.
 - D. The amount of rental housing available would rise.
 - E. The incentive of landlords to maintain their property would be enhanced.

- T7.9d Suppose that college students in Phoenix convinced the city council to enact a law setting the maximum price for rental housing at \$50 per month. What impact will this have?
- A. The amount of racial and other types of discrimination in the local rental housing market would rise.
 - B. It would be just as easy for students to find housing as before.
 - C. The quality of rental housing would rise over time.
 - D. The amount of rental housing available would rise.
 - E. The incentive of landlords to maintain their property would be enhanced.
- T7.10 What is meant by the "incidence" of a tax?
- A. The amount of money raised by the tax for the government.
 - B. Who pays the burden of the tax, and how much the burden is.
 - C. The same as the "excess burden" of the tax.
 - D. The time in which a tax is put into effect.
 - E. The quantity of goods traded after the tax is put into effect.
- T7.11a Social security taxes are supposedly split evenly between employees and employers. Actually, employers send 7.65% of each employee's salary or wage to the government (as the employer's contribution), and deduct an additional 7.65% from each employee's salary to also send to the government (as the employee's contribution). Without making any other assumptions, what can you conclude about the actual tax incidence (burden)?
- A. that the burden of Social Security taxes are borne equally by employers and employees
 - B. that employers bear more than half of the burden of Social Security taxes.
 - C. that employees bear more than half of the burden of Social Security taxes.
 - D. there is no excess burden from Social Security taxes, since both buyer and seller must pay them.
 - E. we need more information before we can determine the incidence of Social Security taxes.
- T7.11b Social security taxes are supposedly split evenly between employees and employers. Actually, employers send 7.65% of each employee's salary or wage to the government (as the employer's contribution), and deduct an additional 7.65% from each employee's salary to also send to the government (as the employee's contribution). Without making any other assumptions, what can you conclude about the actual tax incidence (burden)?
- A. we need to know the excess burden before we can determine the incidence of Social Security taxes.
 - B. we can determine the incidence of Social Security taxes from the information given.
 - C. we need to know the amount of labor purchased (hired) after the tax goes into effect in order to determine the incidence of Social Security taxes.
 - D. we need to know the price of labor purchased (hired) before the tax goes into effect in order to determine the incidence of Social Security taxes.
 - E. we need to know the relative slopes of the demand and supply curves before we can determine the incidence of Social Security taxes.
- T7.11c Social security taxes are supposedly split evenly between employees and employers. Actually, employers send 7.65% of each employee's salary or wage to the government (as the employer's contribution), and deduct an additional 7.65% from each employee's salary to also send to the government (as the employee's contribution). How would the actual tax incidence of Social Security taxes change if employers were charged 15.3% of each employee's salary instead?
- A. Employers would pay more of the tax burden than they now do.
 - B. Employees would pay more of the tax burden than they now do.
 - C. Employers would pay more of the tax burden (if charged 15.3%) than they do now, but only if the supply curve of labor is steeper than the demand curve.
 - D. Employers would pay more of the tax burden (if charged 15.3%) than they do now, but only if the demand curve of labor is steeper than the supply curve.
 - E. There would be no change in the tax incidence.

- T7.11d Social security taxes are supposedly split evenly between employees and employers. Actually, employers send 7.65% of each employee's salary or wage to the government (as the employer's contribution), and deduct an additional 7.65% from each employee's salary to also send to the government (as the employee's contribution). How would the actual tax incidence of Social Security taxes change if employees were charged 15.3% of their salary instead?
- A. Employers would pay more of the tax burden than they now do.
 - B. Employees would pay more of the tax burden than they now do.
 - C. Employees would pay more of the tax burden (if charged 15.3%) than they do now, but only if the supply curve of labor is steeper than the demand curve.
 - D. Employees would pay more of the tax burden (if charged 15.3%) than they do now, but only if the demand curve of labor is steeper than the supply curve.
 - E. There would be no change in the tax incidence.
- T7.12a The excess burden (deadweight loss) of a tax refers to
- A. the additional tax that must be levied because some taxpayers engage in tax avoidance.
 - B. only the part of the tax that is borne by consumers (out of consumer excess or surplus).
 - C. the burden imposed on taxpayers because taxes distort prices and eliminate some trades.
 - D. only the part of the tax that is borne by producers (out of producer excess or surplus)..
 - E. the loss of private purchasing power due to the revenues transferred to the government.
- T7.12b The excess burden (deadweight loss) of a tax is
- A. collected by the government
 - B. consumer surplus lost due to the tax
 - C. producer surplus lost because of the tax
 - D. the decreases in consumer and producer surpluses combined
 - E. that portion of the decreases in consumer and producer surpluses that is not collected by the government.
- T7.12c A head tax is a tax that collects the same dollar amount from each person each year; every person pays the same amount, regardless of what the person does or buys. The excess burden of such a tax is
- A. collected by the government.
 - B. zero.
 - C. producer surplus lost because of the tax.
 - D. the decreases in consumer and producer surpluses combined.
 - E. very large.
- T7.13 Raising the tax rate will generally
- A. reduce the tax base, thus offsetting some of the effect of the increased tax rate.
 - B. increase the tax base, thus offsetting some of the effect of the increased tax rate.
 - C. reduce the tax base, thus increasing the effect of the increased tax rate.
 - D. increase the tax base, thus increasing the effect of the increased tax rate.
 - E. have no effect on the tax base.
- T7.14a The Laffer curve is a graph of
- A. the relationship between the tax base and the tax rate.
 - B. the relationship between the tax rate and the excess burden.
 - C. the relationship between the tax base and the excess burden.
 - D. the relationship between the tax rate and tax revenues.
 - E. the relationship between the tax base and tax revenues.

- T7.14b The Laffer curve shows that
- A. higher tax rates always increase tax revenues.
 - B. lower tax rates always increase tax revenues.
 - C. if tax rates are high, lower tax rates can increase tax revenues.
 - D. if tax rates are high, higher tax rates can increase tax revenues.
 - E. if tax rates are low, lower tax rates can increase tax revenues.
- T7.15 Connie Suer earned \$50,000 last year as a food critic, and paid \$10,000 in taxes. This year, she earns \$60,000 and pays \$13,000 in taxes. What is the marginal tax rate, if tax laws have not changed?
- A. 21.67% B. 26% C. 20% D. 30% E. 16.67%
- T7.16 A worker is given the chance to earn overtime paying \$2,000. The marginal tax rate for the worker is 25% and will not go up with the extra earnings. How much of the extra pay will the worker **get to keep**?
- A. All of it.
 - B. \$500
 - C. \$1,500
 - D. None of it
 - E. It depends on how much the worker is already making.
- T7.17a Connie Suer earned \$50,000 last year as a food critic, and paid \$10,000 in taxes. This year, she earns \$60,000 and pays \$13,000 in taxes. What was Connie's average tax rate last year?
- A. 21.67% B. 26% C. 20% D. 30% E. 16.67%
- T7.17b Connie Suer earned \$50,000 last year as a food critic, and paid \$10,000 in taxes. This year, she earns \$60,000 and pays \$13,000 in taxes. What is Connie's average tax rate this year?
- A. 21.67% B. 26% C. 20% D. 30% E. 16.67%
- T7.18 Connie Suer earned \$50,000 last year as a food critic, and paid \$10,000 in taxes. This year, she earns \$60,000 and pays \$13,000 in taxes. If tax laws have not changed, is the tax situation regressive, progressive, or proportional?
- A. regressive
 - B. progressive
 - C. proportional
 - D. it is regressive in the marginal tax rate, but proportional in the average.
 - E. it is proportional in the marginal tax rate, but regressive in the average.
- T7.19 Cigarette taxes of \$4.00 are charged on every pack of cigarettes sold. What can you say about the income incidence of the tax?
- A. The tax is proportional, since all buyers of cigarettes pay the same amount.
 - B. The tax is regressive.
 - C. The tax is progressive.
 - D. The tax is not based on income, and thus cannot be described as proportional, regressive, or progressive.
 - E. We cannot tell without more information.
- T7.20 A flat-rate tax program that taxes everyone nothing on the first \$25,000 earned and 30% of the amount by which his or her income is over \$25,000 would be (overall)
- A. congressive B. proportional C. recessive D. progressive E. regressive

Answers and Explanations

- 7.1 E. The amount buyers want to buy is equal to the amount sellers want to sell at the equilibrium price. Once that price is reached, there is no up or down pressure on price. Since the buyers' willingness to pay for the good, based on their marginal utility is just equal to the sellers' willingness to accept payment for the good, based on their marginal cost, the marginal utility of buyers equals (approximately) the marginal cost to the sellers. Every unit for which the buyers' marginal utility is greater than the sellers' marginal cost of selling the good is sold (the buyers are willing to pay more for it than the sellers are willing to sell it for, so it gets sold).
- 7.2 C. The amount buyers want to buy is **equal** to the amount sellers want to sell at the equilibrium price. Once that price is reached, there is **no** up or down pressure on price. The marginal utility of buyers equals (approximately) the marginal cost to the sellers. Every unit for which the buyers' marginal utility is **greater** than the sellers' marginal cost of selling the good will be sold (the buyers are willing to pay more for it than the sellers are willing to sell it (D and E both say the opposite)
- 7.3 E. The amount buyers want to buy is **equal** to the amount sellers want to sell at the equilibrium price. Once that price is reached, there is **no** up or down pressure on price. The marginal utility of buyers equals (approximately) the marginal cost to the sellers. Every unit for which the buyers' marginal utility is **greater** than the sellers' marginal cost of selling the good will be sold (the buyers are willing to pay more for it than the sellers are willing to sell it, and no units that produce less utility will be made.
- 7.4 D. The amount buyers want to buy is **equal** to the amount sellers want to sell at the equilibrium price. Once that price is reached, there is **no** up or down pressure on price. The marginal utility of buyers equals (approximately) the marginal cost to the sellers. Every unit for which the buyers' marginal utility is **greater** than the sellers' marginal cost of selling the good will be sold. No units that make **less** utility than they cost are made.
- 7.5 A. If sellers get paid more than the cost of making plotskins, the potential for profit will encourage new producers to start production, and encourage existing producers to expand. If this can happen quickly, the quantity supplied will go up fairly quickly. If not, the increase in quantity supplied may have to wait until new machines, factories, and such can be built.
- 7.6 C. Consumer surplus is how much more a consumer would be willing to pay for a good than they end up buying it for.
- 7.7 C. A price ceiling keeps the price from rising.
- 7.8 E. Since the price is kept low, the quantity supplied will be small, while the quantity demanded by buyers will be great. This shortage will lead to the sellers having to decide who, of the many buyers, will get the few units the sellers have to sell. Since the decision cannot be made on the basis of who will pay the most, it must be made in some other way.
- 7.9 C. A shortage is when the quantity demanded is greater than the quantity supplied, which occurs if the price is low. A shortage only persists if price cannot change (to equilibrium) to encourage greater production by sellers.
- 7.10 D. Since most new cars sell for much more than \$5,000, a shortage will result. While, at first, large numbers of buyers would want to buy the cars that used to sell for \$25,000 if they could get them for \$25,000, many sellers would refuse to sell them (perhaps sending them overseas) and would certainly find it uneconomical to make more new cars (of the same quality) at that price. Eventually, the carmakers might devise cars that they could afford to sell for \$5,000, but they would lack features and be of poor quality.

- 7.11 A. The situation described is a shortage, which results if the price is so low that the quantity of the good that buyers wish to buy is large compared to the amount available. In this case, the price is zero. While the number of spaces is fixed (at least short term), the quantity demanded depends on the price. If some parking fee were charged (as is the case at most colleges), some students who now drive would make other transportation arrangements, reducing the quantity demanded.
- 7.12 C. Because the legal rent is below the equilibrium price (and thus below the marginal cost of supplying the rental units to tenants), there are no financial rewards to landlords of maintaining the units. In fact, Santa Monica has had a problem with landlords going broke or wanting to demolish their apartment buildings and convert the properties into non-residential uses.
- 7.13 E. While a price below the equilibrium price will increase the quantity buyers would like to buy, the quantity supplied by sellers will go down, since sellers can't afford to sell as much at the low price.
- 7.14 E. Since the quantity of steak available at grocery stores will go down (as will also the quality), buyers will have to seek substitutes (such as restaurant steaks).
- 7.15 D. This law creates a price floor. Since the quantity supplied is high with a high price, and the quantity demanded is low with a high price, the quantity supplied will be more than the quantity demanded, causing a surplus.
- 7.16 A. Normally, if quantity supplied is greater than quantity demanded, the price will fall to clear the surplus. If this doesn't happen, there must be an obstacle to the price falling.
- 7.17 C. If quantity demanded is less than the quantity supplied, the price must be above the equilibrium level.
- 7.18 D. The minimum wage is a price floor on labor. As such, it will lead to the quantity supplied of labor being larger than the quantity demanded. The "surplus" labor will consist of workers who are not as desirable to employers for some reason.
- 7.19 A. The minimum wage is a price floor on labor. As such, it will lead to the quantity supplied of labor being larger than the quantity demanded. The surplus workers, who can't sell their labor at the legal wage, will be unemployed for at least some time.
- 7.20 B. When the price of one resource goes up, demand for its substitutes (other resources) will go up. So, if skilled workers can be used to replace some unskilled workers, the demand for the skilled workers goes up. All of the other groups listed are less desirable to employers and thus will be left unhired if the quantity of labor supplied exceeds the quantity demanded.
- 7.21 E. Since few workers, college students or not, are worth \$25, employers will encourage them to quit school or will have to fire them. Either way, very few people who are college students will be working.
- 7.22 B. When the price of one resource (college student workers) goes up, demand for substitutes (other workers) will go up, increasing the number hired.
- 7.23 B. With either a price floor or price ceiling, the quantity actually purchased will fall. In the case of a price floor (above equilibrium), the quantity demanded is small, so the amount purchased is less than in equilibrium. In the case of a price ceiling, the quantity offered for sale by sellers is low, so the amount available for purchase is less than in equilibrium. A surplus does not mean that the good is not scarce, since sellers are still not willing to give the good away for nothing. Rather, a surplus means that more is being offered for sale at the current price than buyers want to buy at the current price. Consumer surplus is how much more consumers value the good than they pay; producer surplus is how much more producers get paid for the good than their costs.
- 7.24 C. The quantity sold will fall.
- 7.25 B. Suppliers pay the tax if the supply curve is steeper than the demand curve.
- 7.26 E. Revenue depends on the amount sold after the tax is imposed.
- 7.27 A. Excess burden is greatest when the curves are flat.
- 7.28 B. Suppliers pay the tax if the supply curve is steeper than the demand curve.

- 7.29 B. The higher price will not change demand, it will change quantity demanded.
- 7.30 B. Find the quantity on the graph for which the gap or difference between the supply curve and the demand curve is one dollar (the amount of the tax). This occurs at a Q of 30 thousand. The buyers' price is \$4 (and the sellers' price is \$3). Since the previous equilibrium price was \$3.50, the price paid by buyers goes up by fifty cents because of the tax.
- 7.31 C. Find the quantity on the graph for which the gap or difference between the supply curve and the demand curve is one dollar (the amount of the tax). This occurs at a Q of 30 thousand.
- 7.32. C. Find the quantity on the graph for which the gap or difference between the supply curve and the demand curve is one dollar (the amount of the tax). This occurs at a Q of 30 thousand. To find the revenue, multiply this by the amount of the tax (one dollar), and the answer is \$30,000.
- 7.33 C. Since the price paid by buyers rose from equilibrium (\$3.50) by about the same amount as the price paid to sellers fell, the buyers and sellers pay equal amounts of the tax.
- 7.34 C. Find the quantity on the graph for which the gap or difference between the supply curve and the demand curve is two dollars (the amount of the tax). This occurs at a Q of 20 thousand. The buyers' price is there about \$4.50 (and the sellers' price is \$3.50). Since the previous equilibrium price was \$3.50, the price paid by buyers goes up by one dollar due to the tax.
- 7.35 B. Find the quantity on the graph for which the gap or difference between the supply curve and the demand curve is two dollars (the amount of the tax). This occurs at a Q of 20 thousand.
- 7.36 D. Find the quantity on the graph for which the gap or difference between the supply curve and the demand curve is two dollars (the amount of the tax). This occurs at a Q of 20 thousand. To find the revenue, multiply this by the amount of the tax (two dollars), and the answer is \$40,000.
- 7.37 C. Find the quantity on the graph for which the gap or difference between the supply curve and the demand curve is three dollars (the amount of the tax). This occurs at a Q of 10 thousand. To find the revenue, multiply this by the amount of the tax (three dollars), and the answer is \$30,000.
- 7.38 C. Find where on the graph the gap or difference between the supply curve and the demand curve is three dollars (the amount of the tax). The price paid by buyers will be about \$5.00, while the price received by sellers will be about \$2.00. Since the price paid by buyers rose from equilibrium (\$3.50) by about the same amount as the price paid to sellers fell, the buyers and sellers pay equal amounts of the tax.
- 7.39 C. The revenue is larger if the tax rate is \$2 than it is if the tax rate is \$1. However, if the tax rate is \$3, the revenue is less than it is when the tax rate is only \$2.
- 7.40 C. The group with the steeper curve pays most of the tax. Remember that the suppliers or sellers are employees who sell their labor. Employers are buyers (they pay the workers).
- 7.41 D. The group with the steeper curve pays most of the tax. Remember that the demanders or buyers are employers (they pay the workers). Employees, who sell their labor, are suppliers.
- 7.42 A. Since the supply curve in both diagrams is about the same, the difference in effect is due to the differences in the demand curves. Since the demand curve is steeper in the cigarette diagram, the buyers will pay more of the tax in that market (the steeper the curve, the more of the tax is paid).
- 7.43 A. Since the supply curve in both diagrams is about the same, the difference in effect is due to the differences in the demand curves. In the case of cigarettes, the steepness of the demand curve means that buyers will not cut back their purchases much in response to the tax. Therefore, the reduction in trade caused by the tax is less in the case of cigarettes than it would be in the case of paper towels, leaving more sales to be taxed in the cigarette case.
- 7.44 C. The tax will be partially passed on to the buyers in the form of a higher price. However, it will not be possible for the sellers to pass along the whole tax.

- 7.45 D. Since trying to pass the tax on to the buyers results in a higher price, it also reduces the quantity demanded. Because of the reduced quantity demanded, there will be a surplus, causing price to fall.
- 7.46 E. The boatwrights having few other skills means that the supply of their labor is fairly steep. Yacht buyers have a flat demand, however, since they can buy the yachts (or substitute items) elsewhere.
- 7.47 B. The worker with the most options has the steeper supply curve for labor. The worker whose employer will have difficulty finding substitutes has a steep demand curve. Taking these into account, Pat has a steep demand curve and a flat supply curve, so Pat's employer will absorb a lot of the tax. Chris will have a steep supply curve and a flat demand curve, so most of the tax will just be passed on to Chris in the form of a lower take-home pay.
- 7.48 A. Because the chips have no good substitutes, demand for them is rather steep (buyers are inflexible, since no other product can be used instead). Due to the steep demand curve, buyers (demanders) will pay most of the tax.
- 7.49. A. The steeper curve (here, the supply curve) will carry most of the tax burden.
- 7.50 B. Some, but not all, of the tax can be passed on the buyers in the form of a higher price.
- 7.51 D. Sellers will have to absorb some to the tax (the portion that cannot be passed on to buyers in the form of a higher price).
- 7.52 A. The deadweight loss is due to the reduction in trade. If buyers and sellers both avoid trading, the deadweight loss will be quite large. Flat curves mean that they are responsive to price, and thus will change the quantity demanded and quantity supplied by a large amount when the tax is imposed.
- 7.53 E. The statutory incidence (who sends the money to the government) is irrelevant. Actual incidence, and the size of the deadweight loss, depend entirely on the shapes of the demand and supply curves.
- 7.54 B. A higher price and lower quantity are the effects of a reduction in supply.
- 7.55 C. Lower price and quantity are caused by a fall in demand.
- 7.56 C. The tax alone would reduce the consumption of the fatty food. However, if the advertisements are effective, the demand should be falling. A small fall in demand (due to the advertising) may not be enough to completely offset the higher prices caused by the tax. Without knowing a great deal about the effect that the tax alone would have on the price, the only way to be certain the advertising is working to a significant degree is to see if the final price (including the tax) ends up lower than before the tax is imposed.
- 7.57 B. Taxes always reduce the quantity of trade.
- 7.58 A. The deadweight loss or excess burden is defined as the loss that happens because trade is reduced, the deadweight loss is bigger if the reduction in trade is bigger.
- 7.59 E. The greater the tax rate, the bigger the excess burden. If, for example, the supply and demand curves are straight lines, the deadweight loss is one-half of the tax rate times the reduction in trade that results from the tax.
- 7.60 A. The Laffer curve says that higher tax rates can reduce tax revenues if the tax base (quantity of trade subject to taxation) falls by more than the tax rate is increased. This will certainly happen, but the size of tax rate at which it occurs depends on the kind of tax and how it is administered.
- 7.61 D.
- 7.62 E.
- 7.63 C. Remember from chapter one that people make marginal decisions.
- 7.64 C. Remember from chapter one that people make marginal decisions.

- 7.65 E. The marginal tax rate is the CHANGE in taxes divided by the CHANGE in income. The change in taxes is \$10,000 minus \$7,000, which equals \$3,000. The change in income is \$40,000 minus \$35,000, which equals \$5,000. \$3,000 additional taxes divided by \$5,000 additional income is 60%.
- 7.66 E. The marginal tax rate is the CHANGE in taxes divided by the CHANGE in income. The change in taxes is \$34,000 minus \$30,000, which equals \$4,000. The change in income is \$66,000 minus \$60,000, which equals \$6,000. \$4,000 additional taxes divided by \$6,000 additional income is 66.667%.
- 7.67 B. The marginal tax rate is the CHANGE in taxes divided by the CHANGE in income. The change in taxes is \$5,000 minus \$3,000, which equals \$2,000. The change in income is \$25,000 minus \$20,000, which equals \$5,000. \$2,000 additional taxes divided by \$5,000 additional income is 40%.
- 7.68 A
- 7.69 A.. Remember, it is the average tax rate (not dollar amount) that matters. Progressive means that the average tax rate gets higher as income rises.
- 7.70 E is certainly regressive. A tax is regressive if the average tax rate is lower for higher income levels. The (average) tax rate is the dollars paid in taxes divided by the income. Dividing a certain number of tax dollars by a big income gives a smaller percentage than dividing the same number of dollars by a small income. Thus, the tax rate is smaller for big incomes than it is for small incomes, which makes the tax
- 7.71 D. D is the only one that is false, although some of the others can fool you if you are not very careful. D is false because a progressive tax would take a larger percentage of a person's earnings as the earnings increase; the tax described in answer D is proportional. A is true, since the marginal tax rate is the percentage of each additional earned dollar that is taxed, and if this rises, the amount that the taxpayer keeps for herself will fall. B is true, although you may see the word "same" and assume (incorrectly) that the tax is proportional. Proportional taxes take the same PERCENTAGE, or average tax rate, of each taxpayer's income, not the same NUMBER of dollars. The (average) tax rate is the dollars paid in taxes divided by the income. Dividing a certain number of tax dollars by a big income gives a smaller percentage than dividing the same number of dollars by a small income. Thus, the tax rate is smaller for big incomes than it is for small incomes. C is true, since there is no way to take a larger amount of money away from a small income without it constituting a larger percentage as well. E is also true, again because it is the percentage that matters rather than the number of dollars. If a tax took half of every dollar earned up to \$10,000, and then took one fourth of every dollar earned beyond the first \$10,000, the tax would be regressive. Still, the more money earned, the more dollars that will be paid in taxes.
- 7.72 C. If, in effect, the percent of income going to pay the tax goes down as income gets higher, then the tax is regressive. If a family making \$10,000 pays \$100 a year in gasoline taxes, that is 1% of their income. If a family making \$100,000 a year also pays \$100 a year in gasoline taxes, that comes to 0.1% of their income. Even though the tax is not charged based on people's income, its effect is to tax poor people at a higher percentage of their income.
- 7.73 B. The marginal tax rate goes from 15.6% to zero when you get to the cut-off, so even in marginal tax terms, it is regressive. However, you can really see how regressive it is if you think about a person who earns just below the cut-off level and a person earning twice as much. They would each pay exactly the same amount in Social Security taxes (so the average tax rate is half as much for the richer person).

- 7.74 D. The marginal tax rate goes from zero (if you make less than \$25,000) to 20%, so even this is increasing. However, it is the average tax rate that matters, and trying some numbers shows that this is progressive, despite the name. For example, a person earning \$30,000 would pay tax on the amount over \$25,000, so they would pay 20% of \$5,000 (since \$30,000 is over \$25,000 by \$5,000). This tax is 20% of \$5,000, which comes to \$1,000. Dividing the tax by the income, gives \$1,000 divided by \$30,000, for an average tax rate of 3.33%. A person earning \$60,000 would pay tax on \$35,000 (the amount over \$25,000). The tax, 20% of \$35,000, is \$7,000. Dividing the \$7,000 tax by the \$60,000 income gives an average tax rate of 11.67%. So, the average tax rate is higher for the person earning the higher income.
- T7.1 C. Remember that consumer surplus is a surplus of value (how much more benefit or value buyers get from the good than they have to pay to get the good).
- T7.2 C. Just the definition.
- T7.3a E. Since equilibrium means that every unit of good that gives some buyer more benefit than it costs some seller to produce is being produced, every unit of good that provides society with a net (subtracting cost) benefit is being made, and no more.
- T7.3b C. Any other output would reduce the sum of producer surplus and consumer surplus
- T7.4 B. If the market is at equilibrium, every buyer of the good who is able and willing to pay at least as much as society is giving up (in other goods) to produce the good gets it, since the cost in terms of other goods is indicated by the supply curve, and the value to the buyer is indicated by the demand curve.
- T7.5 E. A price ceiling below the equilibrium price lowers quantity supplied. While it also increases quantity demanded, only the amount actually available for sale (the quantity supplied) determines the amount actually bought and sold.
- T7.6 C. A price floor above the equilibrium price lowers quantity demanded. While it also increases quantity supplied, only the amount are willing to purchase (the quantity demanded) determines the amount actually bought and sold.
- T7.7 B Since goods do not go to those who are willing to pay the most for them , other factors determine who gets to buy.
- T7.8 A. Demand for substitutes will increase. Low skilled labor is what is generally being sold at the minimum wage. There will be a surplus of low-skilled workers (many will be willing to work, but few will be chosen).
- T7.9a D A shortage would result, and some units, when vacated, would not be offered for rent.
- T7.9b E. At \$50 a month, some landlords could not afford to fix and maintain their apartments.
- T7.9c C Since apartments would not be maintained, the quality (especially of large units) would fall.
- T7.9d A. Since the shortage would lead to landlords having to choose tenants based on things other than willingness to pay the highest rent, other factors will become important. Ironically, if students have a reputation for partying and being disruptive (even if the reputation is not deserved), landlords may be more inclined to discriminate against students than they would have been if rent controls were not imposed.
- T7.10 B. This is just the definition of incidence.
- T7.11a E. The burden depends on the supply and demand.
- T7.11b E. The "statutory incidence" is not the same as the actual incidence of a tax. The actual incidence depends on the relative slopes of the supply and demand curves.
- T7.11c E. The "statutory incidence" is not the same as the actual incidence of a tax. Since the actual incidence depends on the slopes of the supply and demand curves, changing who writes the check to the government (the statutory incidence) will not change who really is paying the tax.

- T7.11d E. The "statutory incidence" is not the same as the actual incidence of a tax. Since the actual incidence depends on the slopes of the supply and demand curves, changing who writes the check to the government (the statutory incidence) will not change who really is paying the tax.
- T7.12a C The excess burden does not get collected; it is a loss of the benefits from trades that could have taken place but do not due to taxes.
- T7.12b E The excess burden does not get collected; it is a loss of the benefits from trades that could have taken place but do not due to taxes.
- T7.12c B There would be no excess burden with such a tax, since no good or activity is taxed (except being a person), and thus no trades are eliminated by the tax.
- T7.13 A. Taxing any activity will reduce the amount of that activity that people do.
- T7.14a D The Laffer curve shows how tax revenues change as tax rates are increased.
- T7.14b C If tax rates are low, raising tax rates increase revenues. At some point, the tax rate is so high that it reduces the tax base so much that smaller tax revenues are collected.
- T7.15 D The change in income is \$10,000 and the change in taxes is \$3,000, so the marginal tax rate is $\$3,000 \div \$10,000 = 30\%$
- T7.16 C The worker will pay 25% of the \$2,000, which is \$500. The worker will keep \$2,000 - \$500 = \$1,500
- T7.17a C $\$10,000 \div \$50,000 = 20\%$
- T7.17b A $\$13,000 \div \$60,000 = 21.67\%$
- T7.18 B The average tax rate is 20% if income is \$50,000, but goes up to 21.67% if income is \$60,000. Since the average tax rate is higher for the higher income, the tax is progressive.
- T7.19 B The tax is regressive, since the amount paid will be about the same for all smokers, and thus will be a smaller portion of the income of high-income smokers.
- T7.20 D. The marginal tax rate goes from zero (if you make less than \$25,000) to 20%, so even this is increasing. However, it is the average tax rate that matters, and trying some numbers shows that this is progressive, despite the name

Chapter 8

General Multiple-Choice Questions

- 8.1 Which of the following purchases this year would not be counted in GDP for this year?
- A. Jerry Actrick hires an auto restoration specialist to refurbish his 1935 Ford automobile.
 - B. Rick O'Shea purchases a new U. S. made Baretta pistol from a licensed gun dealer at a gun show.
 - C. Brandon Irons, a cattle rancher, buys a used pick-up truck to use around the ranch.
 - D. Kelly Greens, a retired stockbroker, replaces her old golf cart with a new one (made this year in the U.S.).
 - E. Jimmy Open purchases tools made this year in the U.S., which he uses to break into houses.
- 8.2 Which of the following will increase GDP this year?
- A. You suffer \$10,000 in damage when a hurricane strikes your house.
 - B. You win \$10,000 in the Arizona Lottery.
 - C. You pay \$300 rent on your apartment.
 - D. Your parents give you a gift of \$500.
 - E. You get a raise from \$6.00 to \$7.50 per hour but cut your work from 25 to 20 hours a week.
- 8.3 Which of the following will increase GDP this year (by the full amount of the purchase)?
- A. Chip Endale, a furniture retailer, sells \$100,000 of furniture from inventories built up last year.
 - B. Cammy Leon uses some lumber sitting in her backyard to build a doghouse for her dog.
 - C. Leslie buys Chris's two-year-old car for \$10,000.
 - D. Patty Wack sells a five-year-old car for \$5,000.
 - E. Wendy Roads pays a repair shop \$500 to put a new (U.S. made) radiator in her 1997 Chevy Suburban.
- 8.4 Which of the following will be fully and directly counted in GDP this year?
- A. The sale of flour to the SteelChildren brand bread company to make its product.
 - B. The sale of a Banana iSplit computer (made entirely in the USA this year) to a student.
 - C. The sale of fertilizer to a farmer who grows artichokes.
 - D. The sale of stock in the MiniSquish Corporation to a beautician saving for her retirement.
 - E. The sale of lumber to a home building and construction firm.
- 8.5 Which of the following transactions would be counted in GDP this year?
- A. You get a \$500 refund on your Federal income taxes paid last year.
 - B. You get a \$5000 insurance settlement from a driver that rear-ended your new car this year.
 - C. You buy a \$5000 used car from its previous owner.
 - D. You buy a set of new floor mats (made in the U.S. this year) from AutoPlace to put in your car.
 - E. You fix the leaky faucet in your kitchen using an old washer you found in your garage.
- 8.6 Which of the following will contribute to GDP this year?
- A. Your family gardener quits, because it is more profitable for him to sell drugs than to cut lawns.
 - B. A burglar steals your TV set to get money to buy illegal drugs.
 - C. Your friend loans you an old black and white TV set to replace one stolen from you.
 - D. The police hire an extra detective to track down the thief that stole your TV set.
 - E. You receive an "A" in economics because you watch TV less and study more.
- 8.7 The largest component of GDP is
- | | | |
|------------------------|---------------------|------------|
| A. Consumption | B. Gross Investment | C. Savings |
| D. Government Spending | E. Taxation | |

- 8.8 Which of the following is not counted in GDP when the expenditure approach is used?
A. Consumption Spending B. Investment Spending C. Net Exports
D. Government Spending E. Taxation
- 8.9 Ray Diho buys a Japanese-made boom box at a local TransistorTown store. In what way does this purchase affect U.S. GDP?
A. GDP will go up by the entire amount of the purchase, since the boom box was sold in the U.S.
B. GDP will go up by the amount of the purchase price minus the price the importer paid to buy the boom box from the Japanese producer.
C. GDP will go up by the amount of purchase price minus the salaries paid to TransistorTown employees (and other costs of operating TransistorTown), minus the price paid to import the boom box.
D. GDP will not be affected, since the boom box was not made in the U.S.
E. GDP will go down by the amount of the purchase price, since the boom box was not made in the U.S.
- 8.10 Which of the following would be counted in GDP?
A. Goods that are produced domestically during the year but placed in inventory instead of being sold to consumers.
B. Consumers' spending on domestically produced goods that are illegal to produce and sell, such as illegal drugs.
C. Consumer purchases of quality used domestically produced goods, such as used automobiles and previously owned homes.
D. Government payments to a single mother with several young children.
E. Purchases of stocks and bonds issued by U.S. corporations.
- 8.11 Which of the following would not be counted in GDP?
A. A Cambridge Wanderer minivan that is produced domestically this year but which is not sold to the consumer until next year.
B. The sales commission or brokerage fee charged for selling MiniSquish Corporation stock.
C. The sale of illegally produced "bootleg" copies of the latest Space Battles film at the local video store.
D. The commission a salesperson earns by selling a Yotayo Komono imported car to a local resident.
E. The purchase of a "Workguy" cordless drill, produced domestically this year, that a homeowner buys at a local department store to make repairs on her ten year old home.
- 8.12 Which of the following is a major shortcoming of GDP as a measure of a society's well-being?
A. Goods produced for sale, but not exchanged during the period, are excluded.
B. It tends to overstate the growth of economic welfare.
C. The value of production that does not involve monetary exchange is often ignored.
D. It includes illegal activities.
E. It includes profit, which is not part of the well-being of consumers.
- 8.13 Real GDP might give a misleading measure of change in national output between two periods because
A. price levels may change.
B. the share of production being carried out in the non-market sector may change between the two periods.
C. new goods may be produced in the later period that cannot be easily compared to earlier goods.
D. it fails to include government transfers.
E. B and C

- 8.14 Which of the following is the best example of inflation?
- A. An increase in the general price level but not in every product's price.
 - B. A large increase in the price of food.
 - C. A decrease in the price of food.
 - D. An increase in the price of almost every product but (because of some large price decreases) not in the general price level.
 - E. A rise in real GDP, but a fall in nominal GDP.
- 8.15 What is the difference between a "real" value and a "nominal" value in economics?
- A. A real value is one that is corrected to eliminate the effect of inflation and price increases. A nominal value is not corrected.
 - B. A real value is one that is actually collected and checked for accuracy. A nominal value is an estimate.
 - C. A real value is generally quite large (such as GDP). A nominal value is usually small.
 - D. A real value involves information about something which can be directly measured. A nominal value is used as a proxy of something that cannot be directly measured.
 - E. A real value is one that is corrected for growth over time. A nominal value is not corrected for growth.
- 8.16 How are real GDP and nominal GDP related?
- A. The real GDP is the nominal GDP multiplied by the price index of a different (usually earlier) year, divided by the price index of the current year.
 - B. The real GDP is the nominal GDP multiplied by the price index of the current year, divided by the price index of a different (usually earlier) year.
 - C. The real GDP is not related to the nominal GDP. They are based on different kinds of data and information.
 - D. The real GDP is the nominal GDP minus depreciation and indirect business taxes.
 - E. The real GDP is the nominal GDP times the interest rate or growth rate.
- 8.17 If you were asked to study the production of the economy during the last three years, why might you prefer to use real GDP as opposed to nominal GDP?
- A. Real GDP is more complete than nominal GDP, since it includes government activity.
 - B. Nominal GDP is less precise, since it does not take into account externalities, while real GDP does.
 - C. Nominal GDP does not adjust for underemployment of workers, while real GDP does.
 - D. Nominal GDP includes things like government transfers, whereas real GDP does not.
 - E. Nominal GDP includes changes in prices as well as output, while real GDP does not.
- 8.18 Which of the following is a price index?
- A. Gross Domestic Product.
 - B. Real GDP.
 - C. Nominal GDP.
 - D. Consumer Price Index.
 - E. The Inflation Rate.
- 8.19 Which of the following is a price index?
- A. Gross Domestic Product.
 - B. Real GDP.
 - C. Nominal GDP.
 - D. GDP Deflator.
 - E. Index of Leading Economic Indicators.
- 8.20 Suppose that nominal GDP increased by 3% between January and May, but real GDP decreased by 2% during that period. What does it mean?
- A. Prices rose by about 3%
 - B. Prices fell by about 2%
 - C. There was deflation
 - D. Prices rose by about 5%
 - E. Real output would have increased if there had been no inflation.

- 8.21 Between 1977 and 1987, the federal minimum wage rose from \$2.65 an hour to \$3.35 an hour. During the same time, the CPI rose from about 60.6 to about 113.6. This is evidence that
- A. the minimum wage rose in real and nominal terms.
 - B. the minimum wage fell in real terms but rose in nominal terms.
 - C. the minimum wage fell in nominal terms but rose in real terms.
 - D. the minimum wage rose in real terms, but we can't say anything else for certain.
 - E. the minimum wage fell in real terms, but we can't say anything else for certain.
- 8.22 Real GDP may not accurately measure the change in market-sector national output between two periods because
- A. price levels may change.
 - B. the share of production being carried out in the non-market sector may change between the two periods.
 - C. new goods may be produced in the later period that cannot be easily compared to earlier goods.
 - D. it fails to include government transfers.
 - E. the amount of illegal activities may have changed.
- 8.23 Real GDP may not accurately measure the change in market-sector national output between two periods because
- A. imports are not counted.
 - B. the quality of goods produced may change over time.
 - C. it fails to include government transfers.
 - D. it ignores pollution.
 - E. it does not include the sale of stocks and bonds.
- 8.24 In 1982, the average hourly earnings of clerical workers in Arizona were \$6.50 per hour. By 2001, the average hourly earnings had risen to \$12.25. In 2001, the CPI was 177.5, compared to 96.5 in 1982. What were the real average earnings of clerical workers in 2001, measured in 1982 dollars?
- A. \$22.48 B. \$6.66 C. \$6.92 D. \$12.69 E. \$21.69
- 8.25 Assume that between 1980 and 1990, nominal GDP increased from \$1000 billion to \$2500 billion, and the index of prices increased from 100 to 200. Which of the following expresses GDP for 1990 in terms of 1980 prices (in billions)?
- A. \$1000 B. \$1250 C. \$2000 D. \$2500 E. \$5000
- 8.26 Assume that between 1990 and 2000, nominal GDP increased from \$6.00 trillion to \$10.00 trillion, and the index of prices increased from 120 to 150. Which of the following expresses GDP for 2000 in terms of 1990 prices?
- A. \$12.50 trillion B. \$6.67 trillion C. \$12.00 trillion D. \$8.00 trillion E. \$8.33 trillion

The following table contains actual information about the U.S. economy between 1970 and 2001.
The base year for the price index is 1982.

Year	Nominal GDP (in billions)	Real GDP (in billions)	CPI (1983=100)
1970	\$1,039.7		38.8
1980	\$2,795.6	\$3,392.7	
1990		\$4,440.2	130.7
1995	\$7,400.6		152.4
1997		\$5,182.8	160.5
1998	\$8,781.5		163.0
1999	\$9,268.6	\$5,563.4	
2000		\$5,733.4	172.2
2001	\$10,208.1		177.1

- 8.27 Using the table above, real GDP in 1970 (in 1982 prices) was closest to (in billions)
A. \$403.4 B. \$1,078.5 C. \$2,679.6 D. \$1,000.9 E. \$721.6
- 8.28 Using the table above, the Consumer Price Index (CPI) in 1980 was closest to
A. 82.4 B. 182.4 C. 17.6 D. 21.4 E. 121.4
- 8.29 Using the table above, nominal GDP for 1990 was closest to
A. \$3,849.3 B. \$4,309.5 C. \$4,570.9 D. \$3,397.2 E. \$5,803.3
- 8.30 Using the table above, real GDP in 1995 (in 1982 prices) was closest to
A. \$11,278.4 B. \$4,856.0 C. \$2,679.6 D. \$1,000.9 E. \$9,339.4
- 8.31 Using the table above, what was nominal GDP for 1997?
A. \$3,229.2 B. \$5,343.3 C. \$5,022.3 D. \$8,318.4 E. \$3,979.1
- 8.32 Based on the table above, what was real GDP for 1998 in 1982 dollars?
A. \$11,547.7 B. \$8,618.5 C. \$5,387.4 D. \$8,944.5 E. \$14,313.8
- 8.33 Using the table above, the Consumer Price Index (CPI) in 1999 was closest to
A. 166.6 B. 60.0 C. 40.0 D. 66.6 E. 160.0
- 8.34 Using the table above, what was nominal GDP for 2000?
A. \$3,229.2 B. \$5,905.6 C. \$9,872.9 D. \$5,561.2 E. \$4,212.6
- 8.35 Based on the table above, what was real GDP for 2001 in 1982 dollars?
A. \$18,078.4 B. \$10,385.1 C. \$10,030.9 D. \$14,143.2 E. \$5,764.0
- 8.36 Based on the table above, what was real GDP for 2001 in **1970** dollars?
A. \$5,764.0 B. \$4,745.6 C. \$46,594.2 D. \$2,236.4 E. \$3,960.7
- 8.37 Based on the table above, what was real GDP for 1970 in **2001** dollars?
A. \$2,679.6 B. \$4,745.6 C. \$2,236.4 D. \$227.8 E. \$1,841.3
- 8.38 Based on the table above, what was real GDP for 1995 in **1998** dollars?
A. \$7,915.3 B. \$4,856.0 C. \$8,210.4 D. \$6,919.3 E. \$12,063.0
- 8.39 Based on the table above, what was real GDP for 1998 in **1995** dollars?
A. \$7,915.3 B. \$5,387.4 C. \$8,210.4 D. \$9,392.3 E. \$13,383
- 8.40 Based on the table above, what was real GDP for 1995 in **2001** dollars?
A. \$4,856.0 B. \$8,784.4 C. \$6,368.4 D. \$13,106.5 E. \$8,600.0

Multiple-Choice Based on Textbook's End-of-Chapter Questions

- T8.1 Which of the following activities will add to this year's GDP?
- A. The time that a driver spends in line waiting to buy gasoline.
 - B. The time that an electrician spends re-wiring a house for a customer.
 - C. The time that a dog owner spends showing his dog at a dog show.
 - D. The time that a teacher spends making a meal for his family.
 - E. The time that a mechanic spends to repair his own car at his home.
- T8.2a Which of the following will increase GDP?
- A. You earn \$2,000 working in Spain as an English instructor.
 - B. You pay \$300 for this month's rental of your apartment.
 - C. You receive \$300 from your parents.
 - D. You suffer \$10,000 of damage when you wreck your automobile.
 - E. You win \$10,000 in a state lottery.
- T8.2b Which of the following will increase GDP?
- A. You get a raise from \$8 to \$10 per hour and simultaneously decide to reduce your hours worked from 20 to 16 per week.
 - B. You win \$10,000 in a state lottery.
 - C. You earn \$2,000 working in Spain as an English instructor.
 - D. You are paid \$300 for computer services provided to a client.
 - E. You receive \$300 from your parents.
- T8.3 Which one contributes most to GDP?
- A. Nguyen spends \$1200 on parts and rebuilds the engine of her automobile herself.
 - B. Lopez sells her four-year-old automobile for \$5,000 and buys Yee's two-year-old model for \$17,000.
 - C. Garcia sells her twelve-year-old automobile for \$1500 and buys a car (made in the U.S. this year) for \$15,300.
 - D. Horowitz pays a repair shop \$2,000 to have the engine of her automobile rebuilt.
 - E. Gonzalez spends \$1000 on parts and pays a mechanic \$1400 to rebuild the engine of her automobile.
- T8.4 In the year 2000, the Arizona Lottery sold \$256 million worth of lottery tickets. \$140 million of that was distributed as prizes, \$43 million went towards expenses of operating the lottery (printing tickets, buying lottery machines, and commissions to stores selling tickets), and \$73 million went to the State government. Based on this information, how much did the lottery add to GDP in 2000?
- A. \$0 B. \$43 mil. C. \$256 mil. D. \$140 mil. E. \$73 mil.

- T8.5 Suppose a Japanese company builds a plant to manufacture motorcycles in Nashville, Tennessee (in the USA). How will the construction of the plant and profits produced this year in the plant affect U. S. GDP?
- A. Even if the construction project is carried out with American workers it will not increase GDP. However, the profits produced in the plant will add to U. S. GDP.
 - B. If the construction project is carried out with American workers, it will increase U. S. GDP. But, any profits produced by the plant will reduce U. S. GDP, since it is owned by foreigners.
 - C. If the construction project is carried out with American workers, it will increase U. S. GDP. But, any profits produced by the plant will not affect U. S. GDP, since it is owned by foreigners.
 - D. Even if the construction project is carried out with American workers it will not affect U. S. GDP, and neither will the profits produced in the plant, since it is owned by foreigners.
 - E. If the construction project is carried out with American workers, it will increase U. S. GDP. Also, any profits produced in the plant will add to U. S. GDP, since they are domestically produced.
- T8.6 Which of the following is true?
- A. Transfers of income, such as cash gifts, entitlement programs, and welfare payments, do not count in GDP.
 - B. Harmful side effects of production, such as pollution, are considered in the calculation of GDP as deductions.
 - C. All productive activity is counted in GDP, whether it is traded in a market or not.
 - D. The production of goods that are used as ingredients of other goods will be directly counted in GDP.
 - E. An increase in GDP always indicates that the standard of living of people has risen.
- T8.7 Why doesn't GDP count productive services, such as childcare, food preparation, cleaning, and laundry, provided within the household?
- A. Such activities, while valuable, are less productive than the activities that are counted.
 - B. It is impossible to measure and place a value on such activities, since they are not exchanged in a market.
 - C. Such activities are counted, as are home repair projects, auto repairs performed at home, gardening, crafts, and other do-it-yourself projects.
 - D. GDP was invented by men, and thus takes a sexist view of production.
 - E. Such activities do not produce anything of value.
- T8.8 What is a price index
- A. 100 times the ratio of prices to GDP.
 - B. 100 times the ratio of the cost of buying a bundle of goods in one year to the cost of buying the same goods in some other (usually prior) base year.
 - C. 100 times the ratio of inflation in one year to inflation in some other (usually prior) base year.
 - D. 100 times the ratio of GDP in one year to GDP in some other (usually prior) base year.
 - E. 100 times the ratio of GDP to the level of prices.
- T8.9 If we wanted to compare the production of the economy in the United States in 1953 to production in 2003, why would even real GDP be misleading?
- A. Capital formation may have changed over the time period.
 - B. Technology may have enabled greater production over the time period.
 - C. Prices may have changed dramatically over such a long time period.
 - D. The characteristics of goods may have changed over the time period.
 - E. The amount of resources in the economy may have changed over the time period.

- T8.10a In 1990, the average hourly pay of U.S. workers was \$12.98 per hour (not counting benefits). By 2002, the average hourly earnings had risen to \$21.98 (not counting benefits). In 2002, the CPI was 179.9, compared to 130.7 in 1990. What was the average hourly pay of workers in 1990 measured in 2002 dollars?
- A. \$16.96 B. \$17.87 C. \$9.43 D. \$15.97 E. \$30.25
- T8.10b In 1990, the average hourly pay of U.S. workers was \$12.98 per hour (not counting benefits). By 2002, the average hourly earnings had risen to \$21.98 (not counting benefits). In 2002, the CPI was 179.9, compared to 130.7 in 1990. What was the average hourly pay of workers in 2002 measured in 1990 dollars?
- A. \$16.96 B. \$17.87 C. \$9.43 D. \$15.97 E. \$30.25
- T8.11 How does the consumer price index (CPI) differ from the GDP deflator?
- A. The CPI is based on only the prices of goods purchased by households, while the GDP deflator is based on the prices of everything in GDP.
- B. The CPI can be used to calculate inflation rates, while the GDP deflator can only be used to find real values from nominal ones.
- C. The CPI measures price differences from one year to the next year only, while the GDP compares prices to some base year (which may be several years in the past).
- D. They do not differ; they are just different names for the same thing--an inflation measurement.
- E. The CPI is a price index, while the GDP deflator is usually expressed as a percentage.

The following table lists the top 25 grossing movies (by 2003) in current dollar box office receipts. These gross numbers do not consider the cost of making the films (or video income), just ticket sales.

Movie	Year	Domestic Box Office (Millions)	CPI in Year Released
<i>Jaws</i>	1975	\$260.0	53.8
<i>Star Wars</i>	1977	\$460.9	60.6
<i>The Empire Strikes Back</i>	1980	\$290.2	82.4
<i>E.T.</i>	1982	\$434.9	96.5
<i>Return of the Jedi</i>	1983	\$309.1	99.6
<i>Batman</i>	1989	\$251.2	124.0
<i>Home Alone</i>	1990	\$285.8	130.7
<i>Jurassic Park</i>	1993	\$357.1	144.5
<i>Forrest Gump</i>	1994	\$329.7	148.2
<i>The Lion King</i>	1994	\$312.9	148.2
<i>Independence Day</i>	1996	\$306.1	156.9
<i>Titanic</i>	1997	\$600.8	160.5
<i>Star Wars: The Phantom Menace</i>	1999	\$431.1	166.6
<i>The Sixth Sense</i>	1999	\$293.5	166.6
<i>Dr. Seuss' How the Grinch Stole Christmas</i>	2000	\$260.0	172.2
<i>Harry Potter and the Sorcerer's Stone</i>	2001	\$317.6	177.1
<i>The Lord of the Rings: Fellowship of the Ring</i>	2001	\$313.4	177.1
<i>Shrek</i>	2001	\$267.7	177.1
<i>Monsters, Inc.</i>	2001	\$255.9	177.1
<i>Spider-Man</i>	2002	\$403.7	179.9
<i>The Lord of the Rings: The Two Towers</i>	2002	\$339.7	179.9
<i>Star Wars: Attack of the Clones</i>	2002	\$310.7	179.9
<i>Harry Potter and the Chamber of Secrets</i>	2002	\$262.0	179.9
<i>Finding Nemo</i>	2003	\$324.9	183.6
<i>The Matrix: Reloaded</i>	2003	\$277.8	183.6

Note: on a quiz, you might be asked about the real value of any of the films, not just those listed here.

T8.12a Using the table above, what was the real value of receipts for *Star Wars* in (millions of) 2000 dollars?

- A. \$1,309.7 B. \$461.0 C. \$793.8 D. \$760.7 E. \$162.2

T8.12b Using the table above, what was the real value of receipts for *E.T.* in (millions of) 2000 dollars?

- A. \$419.7 B. \$776.1 C. \$434.9 D. \$224.1 E. \$438.4

T8.12c Using the table above, what was the real value of receipts for *Titanic*. in (millions of) 2000 dollars?

- A. \$600.8 B. \$374.3 C. \$644.6 D. \$1,034.6 E. \$559.2

- T8.12d Using the table above, what was the real value of receipts for *Star Wars: The Phantom Menace* in (millions of) 2000 dollars?
A. \$417.1 B. \$258.8 C. \$742.4 D. \$431.1 E. \$445.6
- T8.12e Using the table above, which film had the highest box office receipts in real terms?
A. Titanic B. Star Wars C. E. T. D. Spider-man E. Jaws
- T8.12f Using the table above, which film had the second-highest box office receipts in real terms?
A. Titanic B. Star Wars C. E. T. D. Spider-man E. Jaws
- T8.12g Using the table above, in real terms, how much greater were the receipts from *Star Wars* as were the receipts from *Star Wars: The Phantom Menace* ?
A. *Star Wars* earned about 1.07 times as much as *Phantom Menace* (or about 7% more).
B. *Star Wars* earned about twice as much as *Phantom Menace* (or about 100% more).
C. *Star Wars* earned about 1.5 times as much as *Phantom Menace* (or about 50% more).
D. *Star Wars* earned about three times as much as *Phantom Menace* (or about 200% more).
E. *Star Wars* earned about four times as much as *Phantom Menace* (or about 300% more).
- T8.12h Jaws, E.T., and Jurassic Park were all films directed by Steven Spielberg. In real terms, how do they rank in box office receipts (from highest to lowest)?
A. E.T., Jurassic Park, Jaws. B. Jurassic Park, E.T., Jaws
C. E.T., Jaws, Jurassic Park D. Jaws, Jurassic Park, E.T.
E. Jaws, E.T., Jurassic Park
- T8.12i *Gone With the Wind* was released in 1939 and had box office receipts of \$198.6 million. The CPI for 1939 was 22.6. The CPI for 2000 was 172.2. What was the real value of *Gone With the Wind*'s box office receipts in (millions of) 2000 dollars? (Hint: in real terms, *Gone With the Wind* is still the highest-grossing film of all time.)
A. \$2,606.5 B. \$3,419.9 C. \$342.0 D. \$878.8 E. \$1,513.2

Answers and Explanations

- 8.1 C. A used truck won't count. If he had bought a new truck, it might have counted as investment.
- 8.2 C. The services of living in your apartment are being produced the month you live there, and you are the final consumer of them. Damage done to existing possessions does not count by itself (but replacing or rebuilding them might). Transfers (including lottery winnings) don't count. Even if we are using the "income" approach for calculating GDP, your income doesn't change in E (it's \$150 a week either way).
- 8.3 E. Only goods and services entirely produced this year, and traded in a market, will increase this year's GDP.
- 8.4 B. Only final goods and services count. Purchases of corporate stock (ownership in companies) and purchases of things that will be used to make other products do not.
- 8.5 D. Only payments for final goods and services produced this year count. Insurance payments or tax refunds don't count (although, if the money is later used to purchase things, those purchases may count).
- 8.6 D. Illegal activities, and activities that do not produce goods or services which can be sold, do not count.
- 8.7 A.
- 8.8 E.
- 8.9 B. The services provided in the U.S. to transport and sell the boom box will count. Instead of adding them up, we can figure out how much they are worth by taking the sale price of the boom box and subtracting the portion of its price that was not produced in the U.S.
- 8.10 A. Illegal goods, goods produced in prior years, transfers of wealth, and purchases of financial instruments (ownership or debt of corporations) does not count. Final goods produced count, even if they are not yet sold.
- 8.11 C. Illegal goods do not count, but any final good or service produced this year will.
- 8.12 C. Things people do or make for other people won't get counted, unless a transaction is involved, even though they are valuable. This is simply because there is no way to keep account of them.
- 8.13 E. If there is a change in the amount of goods and services being traded in the "underground economy" (without records being kept), then records may reflect more or less of the production that is actually going on. For example, if more plumbers and electricians work for cash (to avoid taxes), and don't report as much of their income, it may appear that the production of services has fallen, even if it has not. Also, if the economy produces fewer goods, but they are of higher quality, real GDP will not reflect this, since the higher prices of the higher quality goods will mathematically just be counted as higher prices.
- 8.14 A. it is the general level of prices that inflation measures; even in times of high inflation, some goods' prices might fall.
- 8.15 A.
- 8.16 A.
- 8.17 E.
- 8.18 D. The consumer price index and the GDP deflator are the two common price indices.
- 8.19 D. The consumer price index and the GDP deflator are the two common price indices.

- 8.20 D. (This is actually a question that should be in chapter 8). Nominal GDP can rise either because of a rise in prices or a rise in real GDP (output). It is approximately correct that the growth in nominal GDP is equal to the growth in prices (inflation) plus the growth in real GDP. In this case, nominal GDP grew by 5% while real GDP fell by 2% (-2% growth). Inflation must have been about 5% to make up the difference.
- 8.21 B. The real value of the 1987 minimum wage is $\$3.35 \times (60.6 \div 113.6) = \1.79 in 1977 dollars. So, even though it was higher in nominal terms, it was lower than the \$2.65 1977 minimum wage in real terms.
- 8.22 C. This is a lot like 8.13, except that it is only asking about the market sector, so we don't have to worry about the non-market production (also known as the "underground economy"). There still is the issue that the quality of goods in the market, or even the kinds of goods in the market, may change over time, and the price index may not account for this. For example, computers are certainly better now than they were in 1983 (the base year for the CPI), and some kinds of items, such as DVD players, were not even available in 1983. Thus, comparing real GDP now to real GDP in 1983 does not account for these changes, since the prices don't reflect the quality changes or new goods available.
- 8.23 B. This deals with the quality issue (see 8.22).
- 8.24 B. To get the real value, take the nominal value and multiply by the price index of the year you are converting into, and divide by the price index of the year for which you have the nominal number. In this question, you get $\$12.25 \times (96.5 \div 177.5) = \6.66
- 8.25 B. To get the real value, take the nominal value and multiply by the price index of the year you are converting into, and divide by the price index of the year for which you have the nominal number. In this question, you get $\$2500 \times (100 \div 200) = \1250 (billion)
- 8.26 D. To get the real value, take the nominal value, and multiply by the price index of the year you are converting into, and divide by the price index of the year for which you have the nominal number. In this question, you get $\$10.00 \times (120 \div 150) = \8.00 (trillion)

Here's the completed table for 8.27 to 8.35

Year	Nominal GDP (in billions)	Real GDP (in billions)	CPI (1982=100)
1970	\$1,039.7	\$2,679.6	38.8
1980	\$2,795.6	\$3,392.7	82.4
1990	\$5,803.3	\$4,440.2	130.7
1995	\$7,400.6	\$4,856.0	152.4
1997	\$8,318.4	\$5,182.8	160.5
1998	\$8,781.5	\$5,387.4	163.0
1999	\$9,268.6	\$5,563.4	166.6
2000	\$9,872.9	\$5,733.4	172.2
2001	\$10,208.1	\$5,764.0	177.1

In filling out the table, remember you are given that the base year is 1982. Also, remember that the price index for the base year is always 100. All of the questions related to the table will use that.

In all of these, if you have the nominal value and you are trying to find the real value, take the nominal value, and multiply by the price index of the year you are converting into, and divide by the price index of the year for which you have the nominal number. This is how you find the answers for 8.27, 8.30, 8.32, and 8.35. For these (on the table) you are converting to the base year, so the price index you multiply by will be 100. In 8.36 to 8.40, you do the same thing, but you are not converting to the base year.

For the other questions, you use the same nominal-real relationship, but you use it to find something other than the real value.

If you have the real and nominal values, but you need to find the price index for a particular year, divide the nominal value by the real value and multiply by 100 (the base year's price index). This, by the way, is how the government figures out the price index in the first place. You need to do this for 8.28 and 8.33.

If you have the real value and the price indices, but need to find the nominal value, take the real value, and multiply by the price index for the year you want the nominal for, then divide by the price index of the base year (100).

8.27 C. $1,039.7 \times (100 \div 38.8)$

8.28 A. $(2,795.6 \div 3,392.7) \times 100$

8.29 E. $4,440.2 \times (130.7 \div 100)$

8.30 B. $7,400.6 \times (100 \div 152.4)$

8.31 D. $5,182.8 \times (160.5 \div 100)$

8.32 C. $8,781.5 \times (100 \div 163.0)$

8.33 A. $(9,268.6 \div 5,563.4) \times 100$

8.34 C. $5,733.4 \times (172.2 \div 100)$

8.35 E. $10,208.1 \times (100 \div 177.1)$

8.36 D. $10,208.1 \times (38.3 \div 177.1)$

8.37 B. $1,039.7 \times (177.1 \div 38.8)$

8.38 A. $7,400.6 \times (163.0 \div 152.4)$

8.39 C. $8,781.5 \times (152.4 \div 163.0)$

8.40 E. $7,400.6 \times (177.1 \div 152.4)$

T8.1 B. The only activity that will generate a service that is sold in a market is the electrician's work, so it is the only one that will count in GDP.

T8.2a B. Rent is payment for the services of using an apartment. Working outside the country, gifts, damage, or transfers don't count.

T8.2b D. Service provided counts if it involves a transaction.

T8.3 C. Nguyen's purchase contributes \$1200 (assuming the parts were made this year in the U.S.), Garcia's purchase contributes \$15,300, Horowitz's transaction contributes \$2,000, and Gonzalez's contributes \$2,400.

T8.4 B. Only goods and services will count. The lottery itself is mostly a transfer from ticket buyers to the government or to winners. When the government or winners spend the money, such spending may or may not count, depending on what they spend it on.

T8.5 E. GDP counts production carried out in this country, no matter who does it, or where the profits go.

- T8.6 A. Transfers do not count because they are not payment for productions of goods or services. Harmful side effects of production are not at all considered in GDP. Production activity only counts if it results in a product or service that will be sold or placed in inventory to be sold later. Only final goods are counted, not those that are to be used as part of another product. The standard of living may rise when GDP increases, but if a large amount of the economy's production involves items that cannot be consumed, such as armaments, the standard of living may not go up. Also, the GDP per person or per capita will better measure the standard of living.
- T8.7 B.
- T8.8 B. This is how the price index is computed.
- T8.9 D. Real GDP is supposed to measure our ability to produce, so it will include things like resources and capital formation. However, it will not allow us to measure how the quality of goods has changed, or if there are new kinds of goods that were not available long ago.
- T8.10a B. $\$12.98 \times (179.9 \div 130.7)$
- T8.10b D. $\$21.98 \times (130.7 \div 179.9)$
- T8.11 A. The major difference concerns what items go into each price index. Also, the CPI uses base year quantities in its construction, while the GDP deflator compares the cost of purchasing each year's GDP at current prices with the cost of buying the same items using base year prices. Thus, the GDP deflator uses the current or nominal year's quantities.

See next page for complete real values

- T8.12a A. $460.9 \times (172.2 \div 60.6)$
- T8.12b B. $434.9 \times 172.2 \div 96.5$
- T8.12c C. $600.8 \times (172.2 \div 160.5)$
- T8.12d E. $431.1 \times (172.2 \div 166.6)$
- T8.12e B.
- T8.12f E.
- T8.12g D. The exact proportion is that *Star Wars* earned 2.94 times as much as *Phantom Menace*, in real terms. My theory? Two words: Jar-Jar.
- T8.12h E. The order of real box office matches the order that the three movies were made, actually.
- T8.12i E. $196.8 \times (172.2 \div 22.6)$ In case you are interested, *Gone With the Wind* is the top-grossing (box office) movie, in real terms (using the CPI). The rest of the top ten, in order, are *Snow White and the Seven Dwarfs*, *Star Wars*, *Bambi*, *The Sound of Music*, *One Hundred and One Dalmatians*, *Jaws*, *The Exorcist*, *E.T.*, and *The Jungle Book* (video sales are not included). *Titanic*, the movie with the largest nominal box office, is eleventh in real terms. Some of these box office figures include re-releases, which almost certainly invalidates the method of calculating real box office revenues when the CPI of only the original release year is used. Still, most of the films with the greatest nominal revenue are not the highest in real terms.

Movie	Year	Domestic Box Office (Millions)	CPI in Year Released	Real Box Office (Mil. 2000 dollars)
<i>Jaws</i>	1975	\$260.0	53.8	\$832.2
<i>Star Wars</i>	1977	\$460.9	60.6	\$1309.7
<i>The Empire Strikes Back</i>	1980	\$290.2	82.4	\$606.5
<i>E.T.</i>	1982	\$434.9	96.5	\$776.1
<i>Return of the Jedi</i>	1983	\$309.1	99.6	\$534.4
<i>Batman</i>	1989	\$251.2	124.0	\$348.8
<i>Home Alone</i>	1990	\$285.8	130.7	\$376.5
<i>Jurassic Park</i>	1993	\$357.1	144.5	\$425.6
<i>Forrest Gump</i>	1994	\$329.7	148.2	\$383.1
<i>The Lion King</i>	1994	\$312.9	148.2	\$363.6
<i>Independence Day</i>	1996	\$306.1	156.9	\$335.9
<i>Titanic</i>	1997	\$600.8	160.5	\$644.6
<i>Star Wars: The Phantom Menace</i>	1999	\$431.1	166.6	\$445.6
<i>The Sixth Sense</i>	1999	\$293.5	166.6	\$303.4
<i>Dr. Seuss' How the Grinch Stole Christmas</i>	2000	\$260.0	172.2	\$260.0
<i>Harry Potter and the Sorcerer's Stone</i>	2001	\$317.6	177.1	\$308.8
<i>The Lord of the Rings: Fellowship of the Ring</i>	2001	\$313.4	177.1	\$304.7
<i>Shrek</i>	2001	\$267.7	177.1	\$260.3
<i>Monsters, Inc.</i>	2001	\$255.9	177.1	\$248.8
<i>Spider-Man</i>	2002	\$403.7	179.9	\$386.4
<i>The Lord of the Rings: The Two Towers</i>	2002	\$339.7	179.9	\$325.2
<i>Star Wars: Attack of the Clones</i>	2002	\$310.7	179.9	\$297.4
<i>Harry Potter and the Chamber of Secrets</i>	2002	\$262.0	179.9	\$250.8
<i>Finding Nemo</i>	2003	\$324.9	183.6	\$304.7
<i>The Matrix: Reloaded</i>	2003	\$277.8	183.6	\$260.6

Chapter 9

General Multiple-Choice Questions

Year	Nominal GDP (In Trillions)	GDP Deflator
2000	\$9.80	170.0
2001	\$10.30	175.1

- 9.1 Using the table above, what was the 2001 GDP in constant 2000 dollars (in trillions)?
 A. \$10.00 B. \$10.61 C. \$5.88 D. \$6.06 E. \$9.80
- 9.2 Using the table above, what was the inflation rate between 2000 and 2001?
 A. 5.25% B. 3.00 % C. 5.10% D. 2.91% E. 4.95%
- 9.3 Using the table above, what was the growth rate of real GDP between 2000 and 2001?
 A. 3.11% B. 2.10% C. 2.04% D. 5.10% E. 8.25%
- 9.4 In 2000, Doris Hopin earned \$60,000 as a locksmith. In 1990, she earned \$45,000. The CPI in 2000 was 172.2 but in 1990 it was 130.7. Between 1990 and 2000, the real value of her earnings
 A. rose by over 30%.
 B. rose by at least 10%, but by less than 30%.
 C. rose by more than 5%, but by less than 10%.
 D. rose by less than 5%.
 E. fell.
- 9.5 In 1982, the average hourly earnings of clerical workers in Arizona were \$6.50 per hour. By 2001, the average hourly earnings had risen to \$12.25. In 2001 the CPI was 177.5, compared to 96.5 in 1982. What was the total growth in real average earnings of clerical workers between 1982 and 2001?
 A. -2.40% B. 88.46% C. 83.94% D. 2.46% E. 2.40%
- 9.6 In the nation of Myopia, the expected rate of inflation is always zero, and inflation comes as a complete surprise to Myopics. Their neighbors in Presbyopia, however, always expect 100% inflation and are shocked if the price level rises by less than that (which it almost always does). Which of the following would you rather be?
 A. A borrower in Myopia. B. A borrower in Presbyopia
 C. A lender in Myopia D. We cannot tell without more information.
 E. Neither a borrower nor a lender be.
- 9.7 Which of the following will be helped by an unanticipated inflation of 5%?
 A. A single mother with a 30-year fixed rate mortgage on her house, and no assets other than her home.
 B. A family holding most of its wealth in long-term fixed rate bonds.
 C. A retiree drawing a monthly pension.
 D. A worker whose wages are determined by a three-year contract she signed two months ago.
 E. None of the above.

- 9.8 Which of the following will be helped by a completely anticipated inflation of 5%?
- A. A single mother with a 30-year fixed rate mortgage on her house, and no assets other than her home.
 - B. A family holding most of its wealth in long-term fixed rate bonds.
 - C. A retiree drawing a monthly pension.
 - D. A worker whose wages are determined by a three-year contract she signed two months ago.
 - E. None of the above
- 9.9 Which of the following will be hurt by an unanticipated inflation of 5%?
- A. A single mother with a 30-year fixed rate mortgage on her house, and no assets other than her home.
 - B. A student who has \$25000 in student loans to pay back at 6% interest.
 - C. A driver who has just purchased and financed a new car.
 - D. A woman who has been saving for retirement and put her money in a fixed-rate bank account.
 - E. A worker whose wages are determined by contract with cost of living adjustments (COLAs) built in.
- 9.10 Unanticipated inflation
- A. will normally hurt creditors but help borrowers.
 - B. will normally help creditors but hurt borrowers.
 - C. will help no one.
 - D. has never been a problem for modern economies.
 - E. has no noticeable effects; since it is unanticipated, it cannot affect anyone's plans.

Multiple-Choice Based on Textbook's End-of-Chapter Questions

T9.1 The table below shows nominal GDP and CPI for the U.S. economy from 1995 to 2002 (in billions). Answer the questions that follow.

Year	Nominal GDP (in billions)	Real GDP (in billions)	CPI (1983=100)
1995	\$7,400.6		152.4
1996	\$7,813.2		156.9
1997	\$8,318.4		160.5
1998	\$8,781.5		163.0
1999	\$9,268.6		166.6
2000	\$9,872.9		172.2
2001	\$10,208.1		177.1
2002	\$10,383.1		179.9

- T9.1a What was real GDP in 1995 (in base year prices)?
 A. \$4856 B. \$11278.5 C. \$7553 D. \$7248.2 E. \$3726.5
- T9.1b What was real GDP in 1996 (in base year prices)?
 A. \$4979.7 B. \$12258.9 C. \$7970.1 D. \$7656.3 E. \$3935.1
- T9.1c What was inflation in 1996?
 A. 2.95% B. 4.5% C. 2.87% D. 5.69% E. 5.58%
- T9.1d What was growth in real GDP in 1996?
 A. 2.55% B. 2.48% C. 5.28% D. 2.95% E. 5.58%
- T9.1e What was real GDP in 1997 (in base year prices)?
 A. \$5182.8 B. \$13351 C. \$8478.9 D. \$8157.9 E. \$4189.5
- T9.1f What was inflation in 1997?
 A. 2.29% B. 3.6% C. 2.24% D. 6.05% E. 6.47%
- T9.1g What was growth in real GDP in 1997?
 A. 4.08% B. 3.92% C. 6.07% D. 2.29% E. 6.47%
- T9.1h What was real GDP in 1998 (in base year prices)?
 A. \$5387.4 B. \$14313.8 C. \$8944.5 D. \$8618.5 E. \$4422.3
- T9.1i What was inflation in 1998?
 A. 1.56% B. 2.5% C. 1.53% D. 6.3% E. 5.57%
- T9.1j What was growth in real GDP in 1998?
 A. 3.95% B. 3.8% C. 5.27% D. 1.56% E. 5.57%
- T9.1k What was real GDP in 1999 (in base year prices)?
 A. \$5563.4 B. \$15441.5 C. \$9435.2 D. \$9102 E. \$4667.6
- T9.1l What was inflation in 1999?
 A. 2.21% B. 3.6% C. 2.16% D. 6.66% E. 5.55%

Year	Nominal GDP (in billions)	Real GDP (in billions)	CPI (1983=100)
1995	\$7,400.6		152.4
1996	\$7,813.2		156.9
1997	\$8,318.4		160.5
1998	\$8,781.5		163.0
1999	\$9,268.6		166.6
2000	\$9,872.9		172.2
2001	\$10,208.1		177.1
2002	\$10,383.1		179.9

- T9.1m What was growth in real GDP in 1999?
 A. 3.27% B. 3.16% C. 5.26% D. 2.21% E. 5.55%
- T9.1n What was real GDP in 2000 (in base year prices)?
 A. \$5733.4 B. \$17001.1 C. \$10045.1 D. \$9700.7 E. \$4972.6
- T9.1o What was inflation in 2000?
 A. 3.36% B. 5.6% C. 3.25% D. 7.22% E. 6.52%
- T9.1p What was growth in real GDP in 2000?
 A. 3.06% B. 2.97% C. 6.12% D. 3.36% E. 6.52%
- T9.1q What was real GDP in 2001 (in base year prices)?
 A. \$5764 B. \$18078.5 C. \$10385.2 D. \$10031 E. \$5142.6
- T9.1r What was inflation in 2001?
 A. 2.85% B. 4.9% C. 2.77% D. 7.71% E. 3.4%
- T9.1s What was growth in real GDP in 2001?
 A. 0.53% B. 5.32% C. 3.28% D. 2.85% E. 3.4%
- T9.1t What was real GDP in 2002 (in base year prices)?
 A. \$5771.6 B. \$18679.2 C. \$10563 D. \$10203.2 E. \$5231.5
- T9.1u What was inflation in 2002?
 A. 1.58% B. 2.8% C. 1.56% D. 7.99% E. 1.71%
- T9.1v What was growth in real GDP in 2002?
 A. 0.13% B. 1.31% C. 1.69% D. 1.58% E. 1.71%
- T9.2 How is the inflation rate determined?
 A. By computing the percentage increase in GDP from one year to the next.
 B. By computing the percentage increase in a price index from one year to the next.
 C. By computing the percentage increase in real GDP from one year to the next.
 D. By computing the percentage increase in real GDP between the base year and the current year.
 E. By computing the percentage increase in the price index between the base year and the current year.

- T9.3 In addition to its effects on borrowers and lenders, what results will inflation have if it is unanticipated and high?
- A. The higher prices and higher wages that accompany them will encourage harder work and greater production.
 - B. People will be able to account for higher prices in their contracts, so no real change in the economy will take place.
 - C. The uncertainty caused and difficulty in making contracts over time will undermine the ability of markets to allocate goods and resources to those who value them the most.
 - D. The higher prices will stimulate economic growth.
 - E. The higher prices and higher wages that accompany them will enable more trade, thus enhancing the ability of markets to allocate goods and resources to those who value them the most.

Answers and Explanations

- 9.1 A. Constant (or real) GDP is nominal GDP divided by the current year price index and multiplied by the index of the year you want to convert to. In this case, that gives us $(\$10.30 \div 175.1) \times 170.0 = \10.0 . Notice, you can also do $(\$10.30 \times 170.0) \div 175.1$ if you prefer--the answer is the same.
- 9.2 B The inflation rate is the percentage change in the price level. In this case, it's either $(175.1 - 170.0) / 170.0 = .03 = 3\%$ or $(175.1 / 170.0) - 1 = 1.03 - 1 = .03 = 3\%$
- 9.3 C To find the answer to this, you first have to answer 9.1. If the real GDP for 2001 (in 2000 dollars) is \$10.00 and real GDP for 2000 (in 2000 dollars, which is the same as the nominal) is \$9.80, the growth rate is the percentage change between them, which is $(\$10.00 - \$9.80) / \$9.80 = 0.020408$ or 2.04%
- 9.4 D To answer this, you must first find the real value (in 1990 dollars) of Doris's 2000 earnings. Her 2000 income in real (1990) terms is worth $\$60,000 \times (130.7 \div 172.2) = \$45,540$. Compared to the 1990 earnings, the real value of the 2000 earnings changed by $(45,540 - 45,000) / 45,000$, which is a 1.2% increase. Remember that numerical questions like this may be different on a quiz.
- 9.5 D To answer this, you must first find the real value (in 1982 dollars) of the 2001 earnings. This is $\$12.25 \times (96.5 \div 177.5) = \6.66 . Then, you must find the growth rate between this and the original 1982 earnings of \$6.50. The growth rate is $(\$6.66 - \$6.50) \div \$6.50 = 2.46\%$. Remember that the numbers may be different on a quiz!!!
- 9.6 A Since there is always unanticipated inflation in Myopia, debtors (borrowers) would benefit from inflation there. Since they get paid back less than they would need to keep up with inflation and earn real interest, creditors (lenders) are harmed in Myopia. In Presbyopia, people anticipate more inflation than there actually is, so borrowers are hurt there (the interest they are asked to repay is much more than would be required if people were accurate in predicting inflation).
- 9.7 A Debtors gain from unanticipated inflation. Creditors lose in unanticipated inflation. If the inflation is anticipated through higher interest rates, there is no benefit to being in debt.
- 9.8 E Anticipated inflation will help or hurt no one, since anyone owing any money to anyone else in the future has already had the inflation calculated into how much she or he will owe. That is the meaning of anticipated inflation..
- 9.9 D Debtors gain from unanticipated inflation. Creditors lose in unanticipated inflation (in which interest rates do not change to reflect inflation). If the inflation is anticipated through higher interest rates, there is no benefit to being in debt (and no loss from being a creditor).
- 9.10 A Unanticipated inflation benefits those in debt (borrowers), provided the interest they pay is not somehow tied to inflation. Creditors, those who are owed or promised money in the future, are made worse off by unanticipated inflation.

T9.1 All of the questions have the letter answer A (see tables that follow for explanations).

T9.1 REAL GDP

Year	Nominal GDP	Real GDP (in billions)	CPI (1982=100)	how to find real GDP
1995	\$7,400.6	\$4,856.0	152.4	$\$7400.6 \times (100 \div 152.4)$
1996	\$7,813.2	\$4,979.7	156.9	$\$7813.2 \times (100 \div 156.9)$
1997	\$8,318.4	\$5,182.8	160.5	$\$8318.4 \times (100 \div 160.5)$
1998	\$8,781.5	\$5,387.4	163.0	$\$8781.5 \times (100 \div 163)$
1999	\$9,268.6	\$5,563.4	166.6	$\$9268.6 \times (100 \div 166.6)$
2000	\$9,872.9	\$5,733.4	172.2	$\$9872.9 \times (100 \div 172.2)$
2001	\$10,208.1	\$5,764.0	177.1	$\$10208.1 \times (100 \div 177.1)$
2002	\$10,383.1	\$5,771.6	179.9	$\$10383.1 \times (100 \div 179.9)$

T9.1 INFLATION RATE

Year	Nominal GDP	Real GDP (in billions)	CPI (1982=100)	inflation rate	how to find inflation rate
1995	\$7,400.6	\$4,856.0	152.4	-	-
1996	\$7,813.2	\$4,979.7	156.9	2.95%	$(156.9 - 152.4) \div 152.4$ (in %)
1997	\$8,318.4	\$5,182.8	160.5	2.29%	$(160.5 - 156.9) \div 156.9$ (in %)
1998	\$8,781.5	\$5,387.4	163.0	1.56%	$(163 - 160.5) \div 160.5$ (in %)
1999	\$9,268.6	\$5,563.4	166.6	2.21%	$(166.6 - 163) \div 163$ (in %)
2000	\$9,872.9	\$5,733.4	172.2	3.36%	$(172.2 - 166.6) \div 166.6$ (in %)
2001	\$10,208.1	\$5,764.0	177.1	2.85%	$(177.1 - 172.2) \div 172.2$ (in %)
2002	\$10,383.1	\$5,771.6	179.9	1.58%	$(179.9 - 177.1) \div 177.1$ (in %)

T9.1 GROWTH OF REAL GDP (note: you must find real GDP first)!!!

Year	Nominal GDP (in billions)	Real GDP (in billions)	CPI (1982=100)	Real GDP Growth	how to find real GDP growth rate
1995	\$7,400.6	\$4,856.0	152.4	-	-
1996	\$7,813.2	\$4,979.7	156.9	2.55%	$(4979.7 - 4856) \div 4856$ (in %)
1997	\$8,318.4	\$5,182.8	160.5	4.08%	$(5182.8 - 4979.7) \div 4979.7$ (in %)
1998	\$8,781.5	\$5,387.4	163.0	3.95%	$(5387.4 - 5182.8) \div 5182.8$ (in %)
1999	\$9,268.6	\$5,563.4	166.6	3.27%	$(5563.4 - 5387.4) \div 5387.4$ (in %)
2000	\$9,872.9	\$5,733.4	172.2	3.06%	$(5733.4 - 5563.4) \div 5563.4$ (in %)
2001	\$10,208.1	\$5,764.0	177.1	0.53%	$(5764 - 5733.4) \div 5733.4$ (in %)
2002	\$10,383.1	\$5,771.6	179.9	0.13%	$(5771.6 - 5764) \div 5764$ (in %)

T9.2 B Inflation is measured as the growth rate in a price index, such as the GDP deflator or Consumer Price Index.

T9.3 C When inflation cannot be anticipated (predicted), it makes borrowing and lending difficult.

Chapter 10

General Multiple-Choice Questions

- 10.1 The interest rate
- A. is, in a way, the price people pay to borrow so that they can obtain goods or resources now rather than in the future.
 - B. is the reward to persons who are willing to reduce their current consumption in order to provide loanable funds to others.
 - C. allows individuals to place a current evaluation on future income and costs.
 - D. is determined by the demand for and supply of loanable funds.
 - E. all of the above.
- 10.2 The real rate of interest
- A. is the same as the inflation rate.
 - B. is the rate at which a low-risk borrower can obtain a loan.
 - C. is generally less than the money interest rate when there are inflationary expectations.
 - D. is generally more than the money interest rate when there is inflation.
 - E. is the money rate of interest minus the risk premium.
- 10.3 The money or nominal rate of interest is equal to
- A. the real rate of interest.
 - B. the inflationary premium.
 - C. the risk premium.
 - D. the real rate of interest minus the inflationary premium.
 - E. the real rate of interest plus the inflationary premium.
- 10.4 If the nominal interest rate is 8% and the inflation rate is expected to be about 3%, what is the approximate real interest rate?
- A. 24% B. 2.4% C. 5% D. 2.67% E. 3.75%
- 10.5 If the nominal interest rate is 8% and the inflation rate is expected to be about 5%, what is the approximate real interest rate?
- A. 40% B. 4% C. 1.6% D. 6.25% E. 3%
- 10.6 Inflationary expectations will
- A. lead to lower prices, eventually.
 - B. cause the nominal interest rate to increase.
 - C. cause the real interest rate to equal the nominal rate.
 - D. cause the real interest rate to fall.
 - E. cause the nominal interest rate to fall.
- 10.7 The real rate of interest is
- A. the rate that a low risk borrower must pay for money.
 - B. the money rate of interest minus the inflation premium.
 - C. the yield on a bond 30-year government bond.
 - D. the risk associated with owning real assets.
 - E. the interest rate minus any risk premium.

- 10.8 Suppose that you purchased a \$10,000 bond that pays 6 percent interest annually and matures in five years. If the inflation rate in recent years has been steady at 3 percent annually, what is the estimated real rate of interest (also called the real rate of return)?
A. 9% B. 18% C. 2% D. 3% E. 1/2%
- 10.9 Suppose that you purchased a \$10,000 bond that pays 6 percent interest annually and matures in five years. If the inflation rate during the next five years remains steady at 3 percent, what real rate of return will you earn?
A. 9% B. 18% C. 2% D. 3% E. 1/2%
- 10.10 Suppose that you purchased a \$10,000 bond that pays 6 percent interest annually and matures in five years. If the inflation rate during the next five years is 6 percent, what real rate of return will you earn?
A. 12% B. 0% C. 1% D. 36% E. 6%
- 10.11 If the price of that it costs to buy a particular kind of bond rises, the interest rate or yield paid by the bond
A. will rise
B. will fall
C. will stay the same
D. could do anything
E. will rise at first and later fall.
- 10.12 As the interest rate rises, the prices and values of assets, in general,
A. will rise
B. will fall
C. will stay the same
D. could do anything.
E. will rise at first and later fall.
- 10.13 Bond prices are
A. the same as interest rates.
B. directly related to interest rates.
C. inversely related to interest rates.
D. the same as real interest rates.
E. the same as inflation.
- 10.14 If a bond pays \$1,000 per year in perpetuity (each year in the future), what will be the market price of the bond when the long-term interest rate is 10 percent? (Hint: \$1,000 is 10 percent interest on what amount?)
A. \$100
B. \$1,000
C. \$1,100
D. \$10,000
E. \$9,000
- 10.15 If a bond pays \$1,000 per year in perpetuity (each year in the future), what will be the market price of the bond when the long-term interest rate is 5 percent? (Hint: \$1,000 is 5 percent interest on what amount?)
A. \$500
B. \$1,000
C. \$50
D. \$5,000
E. \$20,000

- 10.16 Which of the following do you think will make a job-seeker more likely to **keep looking** for a job, rather than accept an available job offer?
- A. Rumors that a major employer in the area will be expanding employment in the next few weeks.
 - B. A policy that limits the availability of unemployment benefits, preventing people who have turned down job offers from collecting benefits thereafter.
 - C. Fear that the economy will not grow as quickly in the future as it is now.
 - D. all of the above.
 - E. none of the above.
- 10.17 The nation of Stupidiot has a population of 20,000. Of these, 11,000 are not currently working. 7,000 are working full time, 2,000 are working part-time, and 1,000 are looking for work. The unemployment rate is
- A. 55% B. 11.1% C. 10% D. 9.9% E. 5%
- 10.18 The unemployment rate is
- A. the number of persons in the country that are not currently working.
 - B. the number of people in the labor force who are not currently working.
 - C. the number of people over 18 and under 65 who are not currently working.
 - D. the percentage of the labor force that is not currently working.
 - E. the percentage of the population that is not currently working.
- 10.19 Full employment occurs when
- A. everyone between the ages of 18 and 65 in the labor force is working.
 - B. the unemployment rate is equal to zero.
 - C. unemployment is at the "natural rate."
 - D. there is no frictional unemployment.
 - E. the only unemployment is due to structural changes in the economy or business cycles.
- 10.20 Frictional unemployment
- A. would decrease if information about jobs were made easier to get.
 - B. would increase if improved methods of disseminating information to unemployed workers were developed.
 - C. would decrease if unemployment compensation payments rose.
 - D. is caused by disequilibrium (such as price floors) in job markets.
 - E. is caused by changes in the skilled workers need in a changing job market.
- 10.21 Unemployment that is explained by delays in getting training for a new occupation (or delays in realizing that such training is needed) is called
- A. "structural" B. "frictional." C. "cyclical." D. "natural." E. "institutional."
- 10.22 Structural unemployment means that
- A. employment in the building trades is insufficient.
 - B. there are not enough jobs to go around.
 - C. worker qualifications do not match available jobs.
 - D. jobs are plentiful, but workers are scarce.
 - E. information about jobs is costly.
- 10.23 The natural rate of unemployment
- A. is the average unemployment rate for the past three years.
 - B. is equal to zero, if we are at full employment.
 - C. occurs when the economy is operating at long-run supply capacity.
 - D. occurs because some people are too lazy to look for a job.
 - E. is due to structural changes in the economy, as well as business cycles.

- 10.24 Jack has a 40-hour-per-week job at an Arizona Mills outlet store, earning \$12.00 an hour. Jill works 20 hours each week as a delivery driver for Domino's Pizza., earning \$6.00 per hour. How would each count in employment statistics?
- A. Both Jack and Jill are counted as employed.
 - B. Jack is counted as employed, while Jill is counted as one-half of an employed worker.
 - C. Jack is counted as employed, while Jill is counted as unemployed.
 - D. Jack is counted as employed, while Jill is counted as one-fourth of a full-time worker.
 - E. Jack is counted as employed, while Jill is considered to be underemployed.
- 10.25 The nation of Stupidiot has a population of 20,000. Of these, 9,000 are not currently working, 8,000 are working full time, 3,000 are working part-time and 1,000 are looking for work but not working. The unemployment rate is closest to
- A. 11.1%
 - B. 5%
 - C. 8.3%
 - D. 45%
 - E. 9.1%
- 10.26 The nation of Brainania has a population of 40,000. Of these, 15,000 are not currently working, 15,000 are working full time, 10,000 are working part-time, and 2,000 are unemployed. The unemployment rate is closest to
- A. 13.3%
 - B. 7.4%
 - C. 5.0%
 - D. 8.0%
 - E. 37.5%
- 10.27 The nation of Slobobia has a population of 200,000. Of these, 100,000 are not currently working, 70,000 are working full time, 30,000 are working part-time, and 10,000 are unemployed. The unemployment rate is closest to
- A. 9.1%
 - B. 11.1%
 - C. 5%
 - D. 8.3%
 - E. 45%
- 10.28 The total population of Lutonia is 200 million. 10 million Lutonians are unemployed, while 130 million are working. What is the unemployment rate, and what is the labor force participation rate?
- A. Unemployment rate is 5 percent and 65 percent of the people are in the labor force.
 - B. Unemployment rate is 7.14 percent and 70 percent of the people are in the labor force.
 - C. Unemployment rate is 7.69 percent and 65 percent of the people are in the labor force.
 - D. Unemployment rate is 5 percent and 70 percent of the people are in the labor force.
 - E. Unemployment rate is 7.69 percent and 70 percent of the people are in the labor force.
- 10.29 The total population of Lutonia is 250 million. 10 million Lutonians are unemployed and 115 million Lutonians currently hold jobs. What is the rate of unemployment and what is the labor force participation rate?
- A. Unemployment rate is 8 percent and 62.5 percent of the people are in the labor force.
 - B. Unemployment rate is 8 percent and 50 percent of the people are in the labor force.
 - C. Unemployment rate is 4 percent and 46 percent of the people are in the labor force.
 - D. Unemployment rate is 8.7 percent and 46 percent of the people are in the labor force.
 - E. Unemployment rate is 8.7 percent and 50 percent of the people are in the labor force.
- 10.30 Which of the following would not be classified as unemployed?
- A. Leslie was laid off as a carpenter several weeks ago, has turned down a job offer since then, but is continuing to look for a job.
 - B. Jaz works 3 hours a day in a hospital, but is looking for a full-time job.
 - C. Sal is looking for a job that fits the schedule of a college student, but has not yet found one, and is not now working.
 - D. Pat is not working, but applied for a job at XYZ Co. and is waiting to hear the result.
 - E. Chris is vacationing in Europe during a layoff at General Motors, but expects to be recalled in two weeks.

Multiple-Choice Based on Textbook's End-of-Chapter Questions

- T10.4 Generally, we might expect that countries with high inflation rates will tend, over time, to have
- A. low interest rates.
 - B. high real GDP growth.
 - C. high real GDP.
 - D. low prices for goods.
 - E. high interest rates.
- T10.5 Why will even an efficiently functioning economy have some unemployment of labor and other resources?
- A. There are unavoidable information costs in every economy. Searching for the best ways in which resources (including labor) can be employed is efficient as long as the marginal gains outweigh the marginal cost of the search.
 - B. Unemployment is a deliberate policy of most governments, since it provides a ready pool of workers and resources.
 - C. Using all resources is inefficient.
 - D. Some people are too lazy to work.
 - E. Some resources and people have higher valued alternative uses. For example, some people may choose to stay home to raise children or may choose to be full-time students.
- T10.6a Which of the following is employed?
- A. Jasmine is not working; she applied for a job at Kwik-E-Mart last week and is waiting to hear back.
 - B. Mario is on a layoff from his job at Honda U.S.A., due to a model changeover, but he expects to be recalled in three weeks.
 - C. Antoine lost his job as an electrician when a construction project was completed. He is looking for work but has been unable to find anything except an \$9 per-hour job, which he turned down.
 - D. Helene works 45 hours per week as a homemaker for her family of five.
 - E. Sterling works four hours in the mornings at a veterinary clinic and for the last two weeks has spent the afternoons looking for a full-time job.
- T10.6b Which of the following is unemployed?
- A. Nguyen is a full-time student living with her parents and does not want to work yet.
 - B. Mario is on a layoff from his job at Honda U.S.A., due to a model changeover, but he expects to be recalled in three weeks.
 - C. Helene works 45 hours per week as a homemaker for her family of five.
 - D. Pablo, a 17-year-old, works six hours per week for a web hosting company.
 - E. Sterling works four hours in the mornings at a veterinary clinic and for the last two weeks has spent the afternoons looking for a full-time job.
- T10.6c Which of the following is unemployed?
- A. Jasmine is not working; she applied for a job at Kwik-E-Mart last week and is waiting to hear back.
 - B. Benny lost his job as a framer when a construction project was completed. He is working at a Krispy Kreme store for \$10 an hour.
 - C. Helene works 45 hours per week as a homemaker for her family of five.
 - D. Pablo, a 17-year-old, works six hours per week for a web hosting company.
 - E. Sterling works four hours in the mornings at a veterinary clinic and for the last two weeks has spent the afternoons looking for a full-time job.

- T10.6d Which of the following is unemployed?
- A. Carlos is vacationing in Mexico after being fired from his job with a software publisher. He expects to start looking for a new job in a couple of weeks.
 - B. Antoine was laid off as a carpenter when a construction project was completed. He is looking for work but has been unable to find anything except an \$8 per-hour job, which he turned down.
 - C. Jim has retired after a long career with the City of Phoenix.
 - D. Pablo, a 17-year-old, works six hours per week for a web hosting company.
 - E. Sterling works four hours in the mornings at a veterinary clinic and for the last two weeks has spent the afternoons looking for a full-time job.
- T10.6e Which of the following is not in the labor force?
- A. Jasmine is not working; she applied for a job at Kwik-E-Mart last week and is waiting to hear back.
 - B. Mario is on a layoff from his job at Honda U.S.A., due to a model changeover, but he expects to be recalled in three weeks..
 - C. Antoine was laid off as a carpenter when a construction project was completed. He is looking for work but has been unable to find anything except an \$8 per-hour job, which he turned down.
 - D. Helene works 45 hours per week as a homemaker for her family of five.
 - E. Pablo, a 17-year-old, works six hours per week for a web hosting company.
- T10.7. How are full employment, the actual rate of unemployment, and the natural rate of unemployment related?
- A. The actual unemployment is the natural rate of unemployment minus the unemployment the economy would have if it were at full employment.
 - B. The natural rate of unemployment is the actual rate of unemployment minus the unemployment the economy would have if it were at full employment.
 - C. When the economy is at full employment, the actual and natural rates of unemployment are equal.
 - D. When the economy is at full employment, actual unemployment is less than the natural rate of unemployment.
 - E. the economy is at full employment, actual unemployment is more than the natural rate of unemployment.
- T10.8. If the rate of unemployment decreases, will the proportion of the total population that is employed necessarily increase?
- A. No, since the unemployment rate is the percentage of the population that does not have jobs, it might change if the population changes, but the proportion of the population that is employed might not.
 - B. No, since the unemployment rate is based on the labor force, it might fall because the number of people in the labor force is falling, even though the proportion of the population that is employed is not changing.
 - C. Yes, since the unemployment rate only falls when more people have jobs, employment is increasing relative to the population.
 - D. Yes, since the unemployment rate is the percentage of the population that does not have jobs, it is the inversely related to the proportion of the population that is employed.
 - E. Yes, since the unemployment rate is the percentage of the labor force that does not have jobs, it only rises when a greater proportion of people in the labor force, and thus in the population, are employed.

- T10.9 Is the natural rate of unemployment always the same?
- Yes, it is always equal to the actual rate of unemployment.
 - Yes, it is always 4.5%.
 - No, it changes with the business cycle.
 - No, it changes as the demand for labor changes.
 - No, it reflects structural conditions and changes in the personal cost of job search.
- T10.10a Which statement is correct?
- The actual rate of unemployment always equals cyclical unemployment. If the natural rate of unemployment also equals the cyclical rate, then the economy is at its potential GDP.
 - If the actual rate of unemployment equals the natural rate of unemployment, then cyclical unemployment is zero and the economy is at its sustainable potential GDP.
 - If the natural rate of unemployment is zero, the economy is at potential GDP. Then, the actual rate of unemployment equals cyclical unemployment, but they may not be zero.
 - If the economy is at potential GDP, the natural rate of unemployment will be zero. Actual unemployment will be equal to the cyclical rate of unemployment.
 - If the cyclical rate of unemployment is zero, then the natural rate of unemployment also equals zero. Actual unemployment would only then equal zero if the economy is at potential GDP.
- T10.10b Which statement is correct?
- If the actual rate of unemployment is greater than the natural rate of unemployment, cyclical unemployment is greater than zero. Also, the economy's GDP is below its sustainable potential GDP.
 - If the actual rate of unemployment is below the natural rate of unemployment, then cyclical unemployment is negative, and the economy's GDP is less than its sustainable potential GDP.
 - If the natural rate of unemployment is positive, the economy's GDP is less than potential GDP. Then, the actual rate of unemployment equals cyclical unemployment.
 - If the economy's GDP is equal to its potential GDP, the natural rate of unemployment will equal actual unemployment. Also, actual unemployment will be equal to the cyclical rate of unemployment.
 - If the cyclical rate of unemployment is zero, then the natural rate of unemployment also equals the actual unemployment rate. However, if this rate is greater than zero, the economy's GDP is less than its sustainable potential GDP.
- T10.11
- | | |
|-----------------------|-------------|
| Population | 200,000,000 |
| Labor force | 120,000,000 |
| Not currently working | 90,000,000 |
| Employed full-time | 80,000,000 |
| Employed part-time | 30,000,000 |
| Unemployed | 10,000,000 |
- T10.11a Using the above information, what is the labor force participation rate?
- 55.0%
 - 5.0%
 - 60.0%
 - 91.7%
 - 66.7%
- T10.11b Using the above information, what is the rate of unemployment?
- 45.0%
 - 9.1%
 - 75.0%
 - 8.3%
 - 5.0%
- T10.11c Using the above information, what is the employment/population ratio?
- 47.5%
 - 45.0%
 - 95.0%
 - 60.0%
 - 55.0%

- T10.12 If a person is classified as unemployed, what does it mean?
- That there were no jobs she could find at wage rates acceptable to her, so she continued to search.
 - That the person does not want a job.
 - That there were no jobs available.
 - That there were no jobs available that the person was qualified to perform.
 - That the person does not have a job, whether or not she is looking for one.
- T10.13 Which of the following will not increase a job seeker's likelihood to reject an available job offer and continue searching for a superior alternative?
- An elimination of unemployment benefits paid to those looking for jobs.
 - News that a new job search web site, posting information on thousands of local job openings, will be available in a week.
 - The rumor that a major firm in the area is going to expand employment next month.
 - The availability of food stamps.
 - Optimism about the future of the economy.

The table below shows the 2002 population, employment, and unemployment figures for eight countries (all numbers are in millions). Use this information to answer the following questions.

Country	Population 15 and over	Number Employed	Number Unemployed
United States	222.0	134.7	7.1
Canada	26.0	15.2	1.2
Japan	108.6	64.0	3.7
Germany	70.4	37.8	4.1
France	48.7	24.2	2.4
United Kingdom	48.6	28.2	1.5
Italy	49.6	21.5	2.1
Mexico	69.5	38.6	1.2

- T10.14a Based on the table above, how many millions of people were in the United States labor force?
- 214.9
 - 127.6
 - 141.8
 - 222
 - 134.7
- T10.14b Based on the table above, how many millions of people were in Canada's labor force?
- 15.2
 - 24.8
 - 14
 - 16.4
 - 26
- T10.14c Based on the table above, how many millions of people were in Japan's labor force?
- 108.6
 - 64
 - 104.9
 - 60.3
 - 67.7
- T10.14d Based on the table above, how many millions of people were in Germany's labor force?
- 41.9
 - 70.4
 - 37.8
 - 66.3
 - 33.7
- T10.14e Based on the table above, how many millions of people were in France's labor force?
- 21.8
 - 26.6
 - 48.7
 - 24.2
 - 46.3
- T10.14f Based on the table above, how many millions of people were in the United Kingdom's labor force?
- 48.6
 - 28.2
 - 29.7
 - 47.1
 - 20.4
- T10.14g Based on the table above, how many millions of people were in Italy's labor force?
- 21.5
 - 47.5
 - 19.4
 - 23.6
 - 49.6

Country	Population 15 and over	Number Employed	Number Unemployed
United States	222.0	134.7	7.1
Canada	26.0	15.2	1.2
Japan	108.6	64.0	3.7
Germany	70.4	37.8	4.1
France	48.7	24.2	2.4
United Kingdom	48.6	28.2	1.5
Italy	49.6	21.5	2.1
Mexico	69.5	38.6	1.2

- T10.14h Based on the table above, how many millions of people were in Mexico's labor force?
A. 69.5 B. 38.6 C. 68.3 D. 37.4 E. 39.8
- T10.14i Based on the table above, what was the labor force participation rate in the United States?
A. 63.9% B. 60.7% C. 96.8% D. 57.5% E. 62.7%
- T10.14j Based on the table above, what was the labor force participation rate in Canada?
A. 61.3% B. 63.1% C. 58.5% D. 95.4% E. 53.8%
- T10.14k Based on the table above, what was the labor force participation rate in Japan?
A. 55.5% B. 61% C. 62.3% D. 58.9% E. 96.6%
- T10.14l Based on the table above, what was the labor force participation rate in Germany?
A. 94.2% B. 47.9% C. 57% D. 59.5% E. 53.7%
- T10.14m Based on the table above, what was the labor force participation rate in France?
A. 49.7% B. 95.1% C. 44.8% D. 52.3% E. 54.6%
- T10.14n Based on the table above, what was the labor force participation rate in the United Kingdom?
A. 61.1% B. 47.6% C. 43.3% D. 95.8% E. 39.1%
- T10.14o Based on the table above, what was the labor force participation rate in Italy?
A. 45.3% B. 47.5% C. 94.5% D. 36.5% E. 44.5%
- T10.14p Based on the table above, what was the labor force participation rate in Mexico?
A. 53.8% B. 56.5% C. 57.3% D. 55.5% E. 98.3%
- T10.14q Based on the table above, what was the unemployment rate for the United States?
A. 39.3% B. 7.1% C. 5% D. 3.2% E. 5.3%
- T10.14r Based on the table above, what was the unemployment rate for Canada?
A. 7.3% B. 4.6% C. 7.9% D. 41.5% E. 1.2%
- T10.14s Based on the table above, what was the unemployment rate for Japan?
A. 3.7% B. 5.5% C. 3.4% D. 5.8% E. 41.1%
- T10.14t Based on the table above, what was the unemployment rate for Germany?
A. 46.3% B. 4.1% C. 9.8% D. 5.8% E. 10.8%

Country	Population 15 and over	Number Employed	Number Unemployed
United States	222.0	134.7	7.1
Canada	26.0	15.2	1.2
Japan	108.6	64.0	3.7
Germany	70.4	37.8	4.1
France	48.7	24.2	2.4
United Kingdom	48.6	28.2	1.5
Italy	49.6	21.5	2.1
Mexico	69.5	38.6	1.2

- T10.14u Based on the table above, what was the unemployment rate for France?
 A. 9.9% B. 50.3% C. 2.4% D. 9% E. 4.9%
- T10.14v Based on the table above, what was the unemployment rate for the United Kingdom?
 A. 3.1% B. 5.3% C. 42% D. 1.5% E. 5.1%
- T10.14w Based on the table above, what was the unemployment rate for Italy?
 A. 8.9% B. 4.2% C. 9.8% D. 56.7% E. 2.1%
- T10.14x Based on the table above, what was the unemployment rate for Mexico?
 A. 1.2% B. 3% C. 1.7% D. 3.1% E. 44.5%

Answers and Explanations

- 10.1 E
- 10.2 C Real interest is the nominal interest rate minus the inflationary premium (based on expected inflation). The higher the expected inflation, the smaller the real interest rate will be compared to the nominal rate.
- 10.3 E This is sort of the opposite of 10.2.
- 10.4 C To determine the real interest rate, subtract the expected inflation rate from the nominal interest rate. So, $8\% - 3\% = 5\%$
- 10.5 E To determine the real interest rate, subtract the expected inflation rate from the nominal interest rate. So, $8\% - 5\% = 3\%$
- 10.6 B As people expect greater inflation, lenders will require borrowers to pay higher interest to make up for the erosion due to inflation. The real interest rate may rise if there is actual inflation (since it is harder to borrow money) but the nominal rate will change as expectations of inflation change.
- 10.7 B
- 10.8 D The real rate of return in the real interest rate you will actually receive. This is approximately the nominal interest rate minus the actual inflation that occurs. Since you do not know what inflation will actually be in the next five years, you can only determine the estimated or expected return. Economists believe that most people's expectations of future inflation are based on the inflation they have experienced in the recent past. So, to find the expected real rate of return, take the 6% interest rate and subtract the 3% inflation rate from the past several years. The estimate 3%. However, the actual rate of return may be different from what is expected, as the next two questions show.
- 10.9 D The real rate of return in the real interest rate you will actually receive. This is approximately the nominal interest rate minus the actual inflation that occurs. To find this for the question, take the 6% interest rate and subtract the 3% inflation rate. The answer is 3%.
- 10.10 B The real rate of return in the real interest rate you will actually receive. This is approximately the nominal interest rate minus the actual inflation that occurs. To find this for the question, take the 6% interest rate and subtract the 6% inflation rate. The answer is 0%, which implies you are not getting paid anything, in real terms, for buying the bond.
- 10.11 B For a bond that pays (yields) a certain amount in the future, the more money that must be paid for the bond now, the smaller the percentage return or interest earned on the bond. For example, if a bond that is worth \$1000 one year from now sells for \$900 now, it is paying 11.1% interest--the buyer gets paid 11.1% more than they are buying the bond for. However, if a bond that is worth \$1000 a year from now sells for \$950 today, the buyer is only earning 5.26% more money than he is paying for the bond.
- 10.12 B. The prices of assets, such as bonds, are inversely related to the interest rate, since the present value of the payments or benefits of the asset will be inversely related to the interest rate.
- 10.13 C Bond prices, and other asset prices, are inversely related to interest rates. For a bond that pays (yields) a certain amount in the future, the more money that must be paid for the bond now, the smaller the percentage return or interest earned on the bond. The higher the interest rate, the lower the price a person would be willing to pay for a bond that pays \$1,000 a year. Also see question 10.12.
- 10.14 D The price of a bond that pays \$1,000 every year forever is the \$1,000 divided by the interest rate. \$1,000 divided by 0.10 (which is 10%) is \$10,000. The other way of looking at this is to ask how much you would have to invest at 10% interest to be able to collect \$1,000 interest payment each year. 10% of \$10,000 will give you \$1,000 interest each year. Notice, this illustrates 10.12 and 10.13.

- 10.15 E The price of a bond that pays \$1,000 every year forever is the \$1,000 divided by the interest rate. \$1,000 divided by 0.05 (which is 5%) is \$20,000. The other way of looking at this is to ask how much you would have to invest at 5% interest to be able to collect \$1,000 interest payment each year. 5% of \$20,000 will give you \$1,000 interest each year. Notice, this illustrates 10.12 and 10.13.
- 10.16 A . A person might not take a current job offer if she or he thinks another, better offer might come up soon. However, if the benefits of continuing to search are reduced (as would happen if the person does not expect good offers in the future search period), or if the costs of continuing to search are increased, the person might curtail the search process.
- 10.17 C The labor force is $7,000+2,000+1,000=10,000$. The unemployment rate is thus $1,000\div10,000$
- 10.18 D
- 10.19 C Full employment is a concept that recognizes that some people will always be joining the labor force or getting new skills, and thus, some people will always be in the process of finding a job. This “natural” unemployment cannot realistically be eliminated, without forcing people to take jobs they may not want.
- 10.20 A Frictional unemployment is that which is due entirely to information costs, and the job search process that these costs involve workers in.
- 10.21 A Structural unemployment is caused by the need for new skills and education. The natural rate of unemployment includes this, as well as frictional (information cost) unemployment.
- 10.22 C Structural unemployment is caused by the need for new skills and education.
- 10.23 C The natural rate of unemployment is unavoidable, and does not occur because of ups and downs in the economy (the business cycle). It is unemployment that occurs, even if the economy is functioning as well as it could be expected to function.
- 10.24 A Anyone with a job is employed, even if it is a part-time job.
- 10.25 C The labor force is the number of working people plus those who are not working but who want to work. So, this is $8,000+3,000+1,000=12,000$. The unemployment rate is the number unemployed divided by the labor force, or $1,000\div12,000=0.08333$ or 8.3%.
- 10.26 B The labor force is $15,000+10,000+2,000=27,000$. The unemployment rate is $2,000\div27,000=7.4\%$
- 10.27 A The labor force is $70,000+30,000+10,000=110,000$. The unemployment rate is $10,000\div110,000=9.1\%$
- 10.28 B The labor force is $10\text{ million}+130\text{ million}=140\text{ million}$. The labor force participation rate is 140 million divided by 200 million, which equals 70%. The unemployment rate is 10 million divided by 140 million, which equals 7.14%
- 10.29 B The labor force is $10\text{ million}+115\text{ million}=125\text{ million}$. The labor force participation rate is 125 million divided by 250 million, which equals 50%. The unemployment rate is 10 million divided by 125 million, which equals 8%
- 10.30 B The only one with a job is Jaz. Even though Chris and Pat are not technically looking for a job, they are waiting for a job that might materialize, but not working, so thus are still unemployed. They are clearly willing and able to work, but don't have jobs.
- T10.4 E Higher interest rates are usually associated with high rates of inflation, since the interest rate will creep up over time, as lenders realize that the value of the money with which they are paid back is falling.
- T10.5 A Information and search costs are the main cause of unemployment; people will never instantly find a new job, even if there is one for them, anymore than people find their ideal spouses quickly, if ever. While E is true in itself, people who stay home to raise children are not unemployed, because they are not in the labor force..

- T10.6a E. Jasmine, Mario, and Antoine are unemployed. Helene is not in the labor force. Sterling is employed, since working part time is being employed.
- T10.6b B. Nguyen is not in the labor force, and neither is Helene. Pablo and Sterling are employed, since working part time is being employed. Even though Mario is not looking for a job, he is waiting for his job to start again, so he is in the labor force, but not working.
- T10.6c A. Benny is employed, even though he wishes he had a different job in his field. Helene is not in the labor force. Pablo and Sterling are employed, since working part time is being employed.
- T10.6d B. Carlos is not working, but is temporarily not in the labor force, since he is not looking for work or waiting for a promised job. Antoine is not working, but is looking for a job, so Antoine is unemployed. Jim is not in the labor force. Pablo and Sterling are employed, since working part time is being employed.
- T10.6e D. Jasmine is unemployed (applied for a job in the last 4 weeks). Even though Mario is not looking for a job, he is waiting for his job to start again, so he is in the labor force, but not working. Antoine is not working, but is looking for a job, so Antoine is unemployed. Helene is not working at a paying job, and is not looking for one, so she is not in the labor force. Pablo is employed, since working part time is being employed.
- T10.7 C. The natural rate of unemployment is the rate when there is full employment. The actual rate equals the natural rate when there is no cyclical unemployment.
- T10.8 B. The unemployment rate is the percentage of people in the labor force who are not working, not the percentage of the population. Exactly the same percentage of people in the population might be working, but people might have left the labor force to take care of families (or simply given up looking for jobs). This reduction in the labor force would make the unemployment rate lower, but no more people are working than before.
- T10.9 E. The natural rate of unemployment depends on conditions that affect the structural and frictional rates of unemployment, such as the ease of returning to school, or the number of new graduates looking for their first job.
- T10.10a B. Actual unemployment is the natural rate of unemployment plus whatever cyclical unemployment there is.
- T10.10b A. Actual unemployment is the natural rate of unemployment plus whatever cyclical unemployment there is. If there is cyclical unemployment, the economy is not producing all it could potentially produce (accounting for information costs).
- T10.11a C. Labor force participation rate is the labor force divided by the population (120 mil. divided by 200 mil.).
- T10.11b D. The unemployment rate is the number unemployed divided by the labor force (10 mil. divided by 120 mil.)
- T10.11c E. Employment is 80 mil. + 30 mil. or 110 mil.. Divide this by the population of 200 mil..
- T10.12 A. There are plenty of jobs at any time; however, people who are looking for a job may turn down a job that they are qualified for simply because it does not offer pay or terms the person wants to accept. Workers who think they can earn more than the minimum wage will not even look at minimum wage jobs, even if they are qualified to work at them. Unemployment is a temporary state in which a person is searching for a job. They may find it or may discover that they need to get new skills to qualify for the kind of job they want. However, only while in the process of that search is the person unemployed.
- T10.13 A. All of the other options reduce the cost of searching for a job, or increase the expected benefit of searching more. Higher benefits of searching (or lower costs) will extend the search.

For the following, remember:

Labor force is number employed plus number unemployed

Labor force participation is the labor force divided by the population

Unemployment rate is the number unemployed divided by the labor force

Country	Pop	Empl	Unem	Labor Force	Labor Force Participation	Unemployment Rate
United States	222.0	134.7	7.1	$134.7 + 7.1 = 141.8$	$141.8 \div 222 = 63.9\%$	$7.1 \div 141.8 = 5\%$
Canada	26.0	15.2	1.2	$15.2 + 1.2 = 16.4$	$16.4 \div 26 = 63.1\%$	$1.2 \div 16.4 = 7.3\%$
Japan	108.6	64.0	3.7	$64 + 3.7 = 67.7$	$67.7 \div 108.6 = 62.3\%$	$3.7 \div 67.7 = 5.5\%$
Germany	70.4	37.8	4.1	$37.8 + 4.1 = 41.9$	$41.9 \div 70.4 = 59.5\%$	$4.1 \div 41.9 = 9.8\%$
France	48.7	24.2	2.4	$24.2 + 2.4 = 26.6$	$26.6 \div 48.7 = 54.6\%$	$2.4 \div 26.6 = 9\%$
United Kingdom	48.6	28.2	1.5	$28.2 + 1.5 = 29.7$	$29.7 \div 48.6 = 61.1\%$	$1.5 \div 29.7 = 5.1\%$
Italy	49.6	21.5	2.1	$21.5 + 2.1 = 23.6$	$23.6 \div 49.6 = 47.6\%$	$2.1 \div 23.6 = 8.9\%$
Mexico	69.5	38.6	1.2	$38.6 + 1.2 = 39.8$	$39.8 \div 69.5 = 57.3\%$	$1.2 \div 39.8 = 3\%$

T10.14a. C

T10.14b.D

T10.14c. E

T10.14d. A

T10.14e.B

T10.14f. C

T10.14g. D

T10.14h. E

T10.14i. A

T10.14j.B

T10.14k. C

T10.14l. D

T10.14m. E

T10.14n. A

T10.14o.B

T10.14p. C

T10.14q.C

T10.14r. A

T10.14s. B

T10.14t.C

T10.14u. D

T10.14v E

T10.14w A

T10.14x B

Chapter 11

General Multiple-Choice Questions

- 11.1 The wages of trained computer programmers is most likely to increase if
- A. the demand for products made by computer programmers goes up.
 - B. the supply of computer programmers is increased due to more places to receive training.
 - C. the demand for products made by computer programmers goes down.
 - D. the price of other resources that can be substituted for computer programmers is reduced.
 - E. software piracy enables people to copy computer programs rather than buying them.
- 11.2 Which of the following will cause the demand for auto mechanics to decrease?
- A. An increase in the demand for auto repairs.
 - B. An increase in the wages paid skilled auto mechanics.
 - C. A decrease in the number of schools for training auto mechanics.
 - D. An increase in the number of schools for training auto mechanics.
 - E. A decrease in the demand for auto repairs.
- 11.3 Which of the following is most likely to increase the supply of labor, at least in the short run?
- A. Workers are willing to accept a lower wage to work the same number of hours as before.
 - B. Holidays make leisure more attractive or valuable to workers.
 - C. Other pursuits, such as hobbies, become more attractive to workers.
 - D. Financial aid and grant money for students attending school full time becomes easier to get.
 - E. Workers value the alternative uses of their time more than they did before.
- 11.4 Which of the following is most likely to decrease the supply of labor, at least in the short run?
- A. Workers are willing to accept a lower wage to work the same number of hours as before.
 - B. Welfare payments are stopped for able-bodied people who don't try to get a job.
 - C. Financial aid and grant money for students attending school full time becomes easier to get.
 - D. Workers are willing to more hours at every possible wage rate.
 - E. Workers value the alternative uses of their time less than they did before.
- 11.5 The average wages of current American workers will most likely rise if
- A. The products produced by American workers become less popular in the world's markets.
 - B. The products produced by American workers become more popular in the world's markets.
 - C. Financial aid and grant money for students attending school full time becomes harder to get.
 - D. Welfare payments are stopped for able-bodied people who don't try to get a job.
 - E. Taxes or other restrictions are placed on the sale of American goods.
- 11.6 A price-floor type law that raises the wage that employers must pay to unskilled, inexperienced, uneducated workers will
- A. increase the numbers of such workers that will be employed.
 - B. cause the prices of goods produced by such workers to rise.
 - C. have no effect on the prices of goods.
 - D. have no effect on the wages ultimately paid to other kinds of workers.
 - E. have no effect on the numbers of such workers that will be employed.

- 11.7 Wages for most workers are determined by
- A. government schedules and lists of how much each kind of work is worth.
 - B. the workers' union.
 - C. international laws, and NAFTA.
 - D. supply of and demand for the kind of work being done.
 - E. comparable worth laws.
- 11.8 An increase in the amount of capital (machines and tools) that workers have to work with will most likely
- A. increase the wages of workers, especially if they know how to use the capital.
 - B. have no impact on the wages of workers.
 - C. lead to increased unemployment of workers.
 - D. decrease the wages of workers, even if they know how to use the capital.
 - E. lead to widespread poverty.
- 11.9 The interest rate is
- A. the price of stocks.
 - B. set in the stock market.
 - C. set by the government.
 - D. determined by the demand for loaned funds and the supply of saving.
 - E. the price of bonds.
- 11.10 The interest rate is determined by
- A. the supply of and demand for loans.
 - B. the ratio of consumers to producers in the economy.
 - C. the ratio of savers to lenders in the economy.
 - D. the ratio of consumption to saving in the economy.
 - E. the supply of resources in the economy.
- 11.11 The interest rate is determined by
- A. the ratio of savers to lenders in the economy.
 - B. the ratio of consumption to saving in the economy.
 - C. the supply of resources in the economy.
 - D. the supply of and demand for loans.
 - E. the government.
- 11.12 The interest rate is most likely to fall if
- A. people have less confidence in Social Security and so choose to save more for their old age.
 - B. the government decides to increase its borrowing to pay for its programs.
 - C. consumers decide to make many new purchases of goods using borrowed funds.
 - D. business decides to purchase capital (machines, tools, etc.) for productive uses by borrowing.
 - E. tax laws make it less attractive to save money and make investments.
- 11.13 Which of the following is most likely to raise interest rates?
- A. Tax law changes make it less attractive to save for retirement.
 - B. Lower incomes overseas make business expansion less attractive.
 - C. Consumers are paying off their credit card debt and other debt.
 - D. Worse investment opportunities in the stock market.
 - E. The U.S. Treasury borrows less than usual.

- 11.14 Other things being equal, what will happen to interest rates if the government borrows money by selling a large amount of bonds?
- A. Interest rates will fall, since bond prices will rise.
 - B. Interest rates will stay the same, since bond prices have no effect on interest rates.
 - C. Interest rates will rise.
 - D. Interest rates will fall, since bond prices will fall.
 - E. We cannot tell what will happen to interest rates.
- 11.15 The interest rate
- A. is set by the government.
 - B. is unaffected by borrowing.
 - C. allows individuals to place a current evaluation on future income and costs.
 - D. is unaffected by saving or lending.
 - E. is set in the stock market.
- 11.16 Ceteris paribus, as the price of goods and services rise, savers will have a harder time saving. This will tend to
- A. lower interest rates.
 - B. raise interest rates.
 - C. increase the demand for goods and services.
 - D. increase the supply of goods and services.
 - E. reduce the demand for loans.
- 11.17 Ceteris paribus, as the price of goods and services rise, buyers of goods will have to borrow more money to make purchases. This will tend to
- A. lower interest rates.
 - B. raise interest rates.
 - C. increase the demand for goods and services.
 - D. increase the supply of goods and services.
 - E. increase the supply of loans.
- 11.18 The exchange rate is
- A. the rate at which people are buying things using money.
 - B. the rate at which people are trading or exchanging things without using money.
 - C. the same as the interest rate.
 - D. the value of one country's money in terms of another country's money.
 - E. the value of the stocks and bonds of the country.
- 11.19 If the exchange rate changes so that the value of the U.S. dollar goes down relative to the Mexican Peso,
- A. U.S. goods will look more expensive to consumers in Mexico.
 - B. U.S. goods will look less expensive to consumers in Mexico.
 - C. Mexican goods will look less expensive to consumers in the U.S.
 - D. consumers in the U.S. will increase their purchases of Mexican goods.
 - E. Mexican goods will look less expensive to consumers in Mexico.
- 11.20 If there is a sudden large increase in demand for U.S.-made software in world markets,
- A. goods from other countries will tend to look more expensive to U.S. buyers.
 - B. there will be no effect on exchange rates.
 - C. exchange rates will reflect a lower value of the U.S. dollar.
 - D. exchange rates will reflect a higher value of the U.S. dollar.
 - E. other U.S. goods will tend to look less expensive to foreign buyers.

- 11.21 Which of the following is most likely to lead to an increase in aggregate demand?
- A. A natural disaster, wiping out people's wealth.
 - B. A rise in the price level.
 - C. A fall in real interest rates (for some reason unrelated to the price level).
 - D. A fall in inflationary expectations.
 - E. An increase in the value of the currency (dollar).
- 11.22 Which of the following is most likely to lead to an increase in aggregate demand?
- A. A natural disaster, wiping out people's wealth.
 - B. A rise in the price level.
 - C. A rise in real interest rates (for some reason unrelated to the price level).
 - D. A rise in inflationary expectations.
 - E. An increase in the value of the currency (dollar).
- 11.23 Which of the following is most likely to lead to an increase in aggregate demand?
- A. A fall in people's wealth.
 - B. A rise in the price level.
 - C. A rise in real interest rates (for some reason unrelated to the price level).
 - D. A fall in inflationary expectations.
 - E. A decrease in the value of the currency (dollar).
- 11.24 Which of the following is most likely to lead to a decrease in aggregate demand?
- A. A fall in the price level.
 - B. A rise in the price level.
 - C. A rise in real interest rates (for some reason unrelated to the price level).
 - D. A rise in inflationary expectations.
 - E. A decrease in the value of the currency (dollar).
- 11.25 Which of the following will increase aggregate demand for goods and services?
- A. An increase in the real interest rate.
 - B. An increase in the cost of resources.
 - C. An increase in the nominal (money) interest rate.
 - D. An increase in the expected growth rate of the economy.
 - E. A decrease in the actual price level (that is, actual inflation).
- 11.26 What result would you most expect if there is increased optimism in the economy (in the short run)?
- A. Aggregate demand would rise.
 - B. Aggregate demand would remain unchanged.
 - C. Aggregate supply would decline.
 - D. Aggregate supply would rise.
 - E. Aggregate demand would fall.
- 11.27 If the anticipated rate of inflation goes up, which of the following is most likely?
- A. Short-run aggregate supply will rise.
 - B. Long-run aggregate supply will fall.
 - C. Long-run aggregate supply will increase.
 - D. Aggregate demand will rise.
 - E. Aggregate demand will fall.

- 11.28 If the real interest rate suddenly increases by 3%,
A. the aggregate demand curve will shift to the left.
B. the aggregate demand curve would shift to the right.
C. the short-run aggregate supply curve would shift to the right.
D. real GDP would increase.
E. long run aggregate supply would increase.
- 11.29 When population rises, so does the workforce. With more workers, we should be able to produce more. This will tend to
A. shift the SRAS and the LRAS to the right.
B. shift the SRAS to the left and the LRAS to the right.
C. shift the SRAS and the LRAS to the left.
D. shift the SRAS to the left and the LRAS to the left.
E. none of the above.
- 11.30 In the short run, an increase in the price level in the goods and services market will
A. move the aggregate demand curve to the right.
B. move the aggregate demand curve to the left.
C. improve profit margins and thus induce producers to expand output.
D. move the aggregate supply curve to the left.
E. move the aggregate supply curve to the right.
- 11.31 Which of the following is most likely to increase short run aggregate supply?
A. Reductions in the expected rate of inflation.
B. Increases in the prices of resources.
C. Increases in government regulation and red tape.
D. Natural disasters.
E. Decreases in the value of the currency.
- 11.32 Which of the following is most likely to increase short run aggregate supply?
A. Reductions in the real prices of resources.
B. Increases in the prices of resources.
C. Increases in government regulation and red tape.
D. Natural disasters.
E. Decreases in the value of the currency.
- 11.33 Which of the following is most likely to increase short run aggregate supply, shifting the curve to the right?
A. Increases in the prices of resources.
B. Inflation.
C. Increases in government regulation and red tape.
D. Favorable weather for growing and transporting goods.
E. Inflationary expectations.
- 11.34 Which of the following is most likely to decrease short run aggregate supply, shifting the curve to the left?
A. Increases in the real prices of resources.
B. Inflation in the prices of goods.
C. Increases in real wealth of consumers.
D. Favorable weather for growing and transporting goods.
E. Reduced inflationary expectations.

- 11.35 Suppose that, during this year, two major earthquakes destroy roads, factories, and homes on the West Coast. Also, hurricanes, floods, and tornadoes destroy large amounts of the east and Midwest. What will happen to the economy?
- A. Aggregate demand will rise.
 - B. Aggregate demand will fall.
 - C. Short run aggregate supply will rise
 - D. Long run aggregate supply will rise.
 - E. Long run aggregate supply will fall.
- 11.36 Which of the following will tend to increase long-run aggregate supply, and hence, full employment output?
- A. New technologies.
 - B. Natural disasters.
 - C. Increases in the price level.
 - D. Reductions in the price level.
 - E. Increased optimism in the economy.
- 11.37 What result would you most expect if there is a fall in aggregate demand (in the short run)?
- A. Real output would decline.
 - B. Real output would remain unchanged.
 - C. The price level would rise.
 - D. The price level would remain unchanged.
 - E. None of the above.
- 11.38 What result would you most expect if there is a fall in aggregate demand (in the short run)?
- A. Real output would decline, and the price level would increase.
 - B. Real output would remain unchanged, and the price level would fall.
 - C. The price level would fall, and real output would decline.
 - D. The price level would remain unchanged, as would real output.
 - E. The price level would rise and real output would also rise.
- 11.39 What result would you most expect if there is a rise in aggregate demand (in the short run)?
- A. Real output would decline, and the price level would increase.
 - B. Real output would remain unchanged, and the price level would rise.
 - C. The price level would fall, and real output would decline.
 - D. The price level would remain unchanged, and real output would rise.
 - E. The price level would rise and real output would also rise.
- 11.40 Which of the following is likely to accompany an unanticipated decrease in aggregate demand?
- A. An increase in the price level.
 - B. An increase in employment.
 - C. A decrease in real GDP.
 - D. An increase in real GDP.
 - E. A decrease in unemployment.
- 11.41 Which of the following is likely to accompany a decrease in short run aggregate supply?
- A. An increase in nominal GDP.
 - B. An increase in investment.
 - C. A rise in real GDP.
 - D. A fall in the price level.
 - E. A decrease in real GDP.

- 11.42 What result would you most expect if there is a rise in short run aggregate supply?
- A. Real output would decline, and the price level would increase.
 - B. Real output would remain unchanged, and the price level would fall.
 - C. The price level would fall, and real output would increase.
 - D. The price level would remain unchanged, and real output would rise.
 - E. The price level would rise and real output would also rise.
- 11.43 Which of the following is most likely to cause the price level to fall while real output is falling (in the short run)?
- A. A rise in short run aggregate supply
 - B. A fall in aggregate demand.
 - C. A fall in short run aggregate supply.
 - D. A rise in aggregate demand.
 - E. A rise in long run aggregate supply.
- 11.44 Which of the following is most likely to cause the price level to fall while real output is rising (in the short run)?
- A. A rise in short run aggregate supply
 - B. A fall in aggregate demand.
 - C. A fall in short run aggregate supply.
 - D. A rise in aggregate demand.
 - E. A fall in long run aggregate supply.
- 11.45 Which of the following is most likely to cause the price level to rise while real output is rising (in the short run)?
- A. A rise in short run aggregate supply
 - B. A fall in aggregate demand.
 - C. A fall in short run aggregate supply.
 - D. A rise in aggregate demand.
 - E. A rise in long run aggregate supply.
- 11.46 Which of the following is most likely to cause the price level to rise while real output is falling (in the short run)?
- A. A rise in short run aggregate supply
 - B. A fall in aggregate demand.
 - C. A fall in short run aggregate supply.
 - D. A rise in aggregate demand.
 - E. A rise in long run aggregate supply.
- 11.47 If the government lowers the capital gains tax , it will increase the supply of loanable funds. If this happens...
- A. we might expect real interest rates to fall.
 - B. we might expect aggregate demand to increase.
 - C. we might expect real output to rise.
 - D. we might expect the price level to rise.
 - E. all of the above.

- 11.48 What result would you most expect if there is increased optimism in the economy (in the short run)?
- A. Real output would decline.
 - B. Real output would remain unchanged.
 - C. The price level would decline
 - D. The price level would remain unchanged.
 - E. The price level will rise.
- 11.49 What result would you most expect if there is pessimism in the economy (in the short run)?
- A. Real output would decline.
 - B. Real output would remain unchanged.
 - C. The price level would rise.
 - D. The price level would remain unchanged.
 - E. Real output would rise.
- 11.50 What result would you most expect if there is a fall in the real interest rate (in the short run)?
- A. Real output would decline.
 - B. Real output would remain unchanged.
 - C. The price level would rise.
 - D. The price level would remain unchanged.
 - E. The price level would fall.
- 11.51 What result would you most expect if there is a fall in the real interest rate (in the short run)?
- A. Real output would decline.
 - B. Real output would remain unchanged.
 - C. The price level would decline
 - D. The price level would remain unchanged.
 - E. None of the above.
- 11.52 What result would you most expect if there is a fall in expected inflation (in the short run)?
- A. The price level would remain unchanged, as would real output.
 - B. The price level would fall, and real output would decline.
 - C. The price level would rise and real output would also rise.
 - D. Real output would decline, and the price level would increase.
 - E. Real output would rise, and the price level would fall.
- 11.53 What result would you most expect if there is a rise in optimism about the economy (in the short run)?
- A. The price level would remain unchanged, as would real output.
 - B. The price level would fall, and real output would decline.
 - C. The price level would rise and real output would also rise.
 - D. Real output would decline, and the price level would increase.
 - E. Real output would rise, and the price level would fall.
- 11.54 If a large drop in the stock market reduces the wealth of many Americans and foreign investors,
- A. In the short run, unemployment will fall, while inflation rises.
 - B. In the long run, unemployment will be lower than it is now.
 - C. In the short run, unemployment will rise and inflation will fall.
 - D. In the long run, unemployment will be higher than it is now.
 - E. In the short run, unemployment will rise and inflation will fall. In the long run, unemployment will be higher than it is now.

- 11.55 What result would you most expect if there is a fall in consumer wealth (in the short run)?
- A. The price level would remain unchanged, as would real output.
 - B. The price level would fall, and real output would decline.
 - C. The price level would rise and real output would also rise.
 - D. Real output would decline, and the price level would increase.
 - E. Real output would rise, and the price level would fall.
- 11.56 What result would you most expect in the U.S. economy if there is a rise in the value of the dollar (in the short run)?
- A. The price level would remain unchanged, as would real output.
 - B. The price level would fall, and real output would decline.
 - C. The price level would rise and real output would also rise.
 - D. Real output would decline, and the price level would increase.
 - E. Real output would rise, and the price level would fall.
- 11.57 What result would you most expect if there is a rise in interest rates (in the short run)?
- A. The price level would remain unchanged, as would real output.
 - B. The price level would fall, and real output would decline.
 - C. The price level would rise and real output would also rise.
 - D. Real output would decline, and the price level would increase.
 - E. Real output would rise, and the price level would fall.
- 11.58 What result would you most expect if there is a fall in the real interest rate (in the short run)?
- A. The price level would remain unchanged, as would real output.
 - B. The price level would fall, and real output would decline.
 - C. The price level would rise and real output would also rise.
 - D. Real output would decline, and the price level would increase.
 - E. Real output would rise, and the price level would fall.
- 11.59 What result would you most expect if weather and other factors make production difficult (in the short run)?
- A. The price level would remain unchanged, as would real output.
 - B. The price level would fall, and real output would decline.
 - C. The price level would rise and real output would also rise.
 - D. Real output would decline, and the price level would increase.
 - E. Real output would rise, and the price level would fall.
- 11.60 What result would you most expect if there is a fall in resource prices (in the short run)?
- A. The price level would fall, and real output would increase.
 - B. The price level would remain unchanged, and real output would rise.
 - C. The price level would rise and real output would also rise.
 - D. Real output would decline, and the price level would increase.
 - E. Real output would remain unchanged, and the price level would fall.
- 11.61 What result would you most expect if oil prices rise (in the short run)?
- A. The price level would remain unchanged, as would real output.
 - B. The price level would fall, and real output would decline.
 - C. The price level would rise and real output would also rise.
 - D. Real output would decline, and the price level would increase.
 - E. Real output would rise, and the price level would fall.

- 11.62 If expected inflation increases permanently, what is most likely to happen?
- A. The price level will be lower in the long run than it was before the change in expected inflation.
 - B. The price level will be higher in the long run than it was before the change in expected inflation.
 - C. Real GDP will be lower in the short run than it was before the change in expected inflation.
 - D. Real GDP will be higher in the long run than it was before the change in expected inflation.
 - E. Real GDP will be lower in the long run than it was before the change in expected inflation.
- 11.63 If expected inflation decreases permanently, what is most likely to happen (compared to the original situation)?
- A. In the long run, the price level will be higher, but real GDP will be lower.
 - B. In the long run, the price level will be higher, and real GDP will be higher.
 - C. In the long run, the price level will be lower, and real GDP will be higher.
 - D. In the long run, the price level will be lower, and real GDP will stay the same.
 - E. In the long run, the price level will be lower, and real GDP will be lower.
- 11.64 If real interest rates increase permanently, what is most likely to happen (compared to the original situation)?
- A. In the long run, the price level will be higher, but real GDP will be lower.
 - B. In the long run, the price level will be higher, and real GDP will be higher.
 - C. In the long run, the price level will be lower, and real GDP will be higher.
 - D. In the long run, the price level will be lower, and real GDP will stay the same.
 - E. In the long run, the price level will be lower, and real GDP will be lower.
- 11.65 If consumer income increases permanently, what is most likely to happen (compared to the original situation)?
- A. In the long run, the price level will be higher, but real GDP will be lower.
 - B. In the long run, the price level will be higher, and real GDP will stay the same.
 - C. In the long run, the price level will be higher, and real GDP will be higher.
 - D. In the long run, the price level will be lower, and real GDP will be higher.
 - E. In the long run, the price level will be lower, and real GDP will be lower.
- 11.66 If the supply of resources increases permanently, what is most likely to happen (compared to the original situation)?
- A. In the long run, the price level will be higher, but real GDP will be lower.
 - B. In the long run, the price level will be higher, and real GDP will stay the same.
 - C. In the long run, the price level will be higher, and real GDP will be higher.
 - D. In the long run, the price level will be lower, and real GDP will be higher.
 - E. In the long run, the price level will be lower, and real GDP will be lower.
- 11.67 During the 1980's, the real price of crude oil fell sharply on the world market. Other things constant, how would this price fall have influenced the price level and output of oil-importing nations, in the short run?
- A. Both real output and price level would have fallen.
 - B. Both real output and price level would have risen.
 - C. Real output would have fallen, while the price level would have risen.
 - D. Real output would have risen, while the price level would have fallen.
 - E. We cannot tell without more information.

- 11.68 Other things constant, what impact did the sharp rise in the price of imported oil during the Persian Gulf War have on the economy?
- A. Aggregate supply fell, real GDP growth fell, inflation increased.
 - B. Aggregate supply fell, real GDP growth rose, inflation increased.
 - C. Aggregate supply fell, real GDP growth fell, inflation decreased.
 - D. Aggregate supply rose, real GDP growth fell, inflation increased.
 - E. Aggregate demand rose, real GDP growth rose, inflation increased.
- 11.69 A short run situation in which the actual rate of unemployment is less than the natural rate
- A. is impossible.
 - B. will end eventually when resource prices fall, as they will over time.
 - C. will end eventually when resource prices rise, as they will over time.
 - D. can only be changed by government actions.
 - E. will end eventually when the real interest rate falls, at it will over time.
- 11.70 When an economy is operating at less than full capacity, then a market economy may tend to be self-correcting (and move towards equilibrium at full employment capacity) because
- A. lower resource prices will increase aggregate supply.
 - B. lower retail prices will increase aggregate demand.
 - C. high unemployment will lead the government to raise taxes to balance the budget.
 - D. both a and B.
 - E. all of the above.
- 11.71 Ceteris paribus, which of the following occurs when the price level rises in the U.S.?
- A. Real wages and resource prices fall, encouraging expansion by U.S. businesses.
 - B. Consumers in other countries discover that goods in the U. S. appear to be a bargain.
 - C. U.S. consumers find it easier to borrow money to make purchases.
 - D. The long run production capacity of the U. S. increases.
 - E. U. S. consumers who have money in the bank will experience an increase in real wealth.
- 11.72 Ceteris paribus, which of the following occurs when the price level rises in the U.S.?
- A. Real wages and resource prices rise, encouraging expansion by U.S. businesses.
 - B. Consumers in other countries discover that goods in the U. S. appear to be more expensive.
 - C. U.S. consumers find it easier to borrow money to make purchases.
 - D. The long run production capacity of the U. S. increases.
 - E. U. S. consumers who have money in the bank will experience an increase in real wealth.
- 11.73 Ceteris paribus, which of the following occurs when the price level rises in the U.S.?
- A. U. S. consumers who have money in the bank will experience an increase in real wealth.
 - B. Consumers in other countries discover that goods in the U. S. appear to be a bargain.
 - C. U.S. consumers find it easier to borrow money to make purchases.
 - D. The long run production capacity of the U. S. increases.
 - E. U. S. businesses will experience an increase in their profit margins.
- 11.74 Ceteris paribus, which of the following occurs when the price level rises in the U.S.?
- A. U. S. consumers who have money in the bank will experience an increase in real wealth.
 - B. U. S. businesses will experience a decrease in their profit margins.
 - C. U.S. consumers find it easier to borrow money to make purchases.
 - D. U. S. consumers will substitute foreign goods for more expensive U. S. goods.
 - E. The long run production capacity of the U. S. increases.

- 11.75 Which is not true about long run equilibrium?
- A. The actual price level must be equal to the price level anticipated for the current period.
 - B. Actual real GDP must equal the full employment level of output.
 - C. The actual rate of unemployment must equal the natural rate of unemployment.
 - D. The nominal interest rate must equal the rate of inflation.
 - E. The quantity of real goods and services demanded must equal the quantity of real goods and services supplied in the economy.

Multiple-Choice Based on Textbook's End-of-Chapter Questions

- T11.1a Which of the following is a reason for a **lower** domestic price level being associated with a larger aggregate quantity demanded of goods and services (that is, a downward-sloping aggregate demand)?
- A. Domestic consumers will purchase more imported goods when the price level falls.
 - B. At lower price levels, real interest rates will rise, discouraging borrowing and spending.
 - C. At lower price levels, purchasing power and real wealth will increase, thus people will tend to buy more.
 - D. At lower price levels, the monetary authorities will increase the supply of money, thus encouraging purchases.
 - E. It is the reflection of downward-sloping demand for individual goods.
- T11.1b Which of the following is a reason for a **lower** domestic price level being associated with a larger aggregate quantity demanded of goods and services (that is, a downward-sloping aggregate demand)?
- A. Domestic consumers will purchase more imported goods when the price level falls.
 - B. At lower price levels, real interest rates will fall, enabling more borrowing and spending.
 - C. At lower price levels, purchasing power and real wealth will decrease, thus people will tend to buy more.
 - D. At lower price levels, the monetary authorities will increase the supply of money, thus encouraging purchases.
 - E. It is the reflection of downward-sloping demand for individual goods.
- T11.2a A vertical long-run aggregate supply curve means that
- A. an increase in the price level will permit the economy to achieve a higher level of performance.
 - B. an increase in the price level will not expand an economy's output capacity in the long run.
 - C. an increase in the price level will promote technological change and more rapid economic growth.
 - D. output rates greater than the economy's long-run supply constraint cannot be attained.
 - E. in the long run, there is zero unemployment.
- T11.2b Which of the following is a major factor influencing aggregate supply in the long run?
- A. The price level.
 - B. Profits.
 - C. Real income of consumers.
 - D. Real interest rates.
 - E. Supply of resources.
- T11.2c Which of the following is a major factor influencing aggregate supply in the long run?
- A. The price level.
 - B. Profits.
 - C. Real income of consumers.
 - D. Technology.
 - E. Real interest rates.
- T11.2d Which of the following is a major factor influencing aggregate supply in the long run?
- A. The price level relative to resource prices.
 - B. Profits rates relative to resource prices.
 - C. Real income of consumers.
 - D. Real interest rates.
 - E. Institutions that influence the efficiency of resource use.

- T11.2e Why doesn't the long-run aggregate supply curve slope upward to the right, as the short-run aggregate supply curve does?
- A. As the price level rises, real interest rates rise, and thus consumers buy less.
 - B. As the price level rises, resource prices will rise as contracts are re-negotiated, so higher product prices will not encourage additional production.
 - C. An increase in the price level will increase profits, thus encouraging increased production of goods.
 - D. As the price level rises, exports will increase, as our products will be in demand overseas.
 - E. As the price level rises, real wealth will decrease, reducing purchases by consumers, which will free up funds to be used for new investment and production.
- T11.3a In the short run, an increase in the price level in the goods and services market will
- A. increase the purchasing power of money.
 - B. reduce the natural rate of unemployment.
 - C. improve profit margins and thus induce producers to expand output.
 - D. increase resource prices and thus lead to a decline in output.
 - E. move the aggregate supply curve to the right.
- T11.3b Which of the following is a possible reason why the short-run supply curve is postulated to slope up?
- A. As the price level rises, real interest rates rise, and thus consumers buy less.
 - B. As the price level rises, profits decline and thus suppliers produce less output.
 - C. As the price level rises, profits rise and thus suppliers produce more output.
 - D. As the price level rises, exports will increase, as our products will be in demand overseas.
 - E. As the price level rises, real wealth will decrease, reducing purchases by consumers, which will free up funds to be used for new investment and production.
- T11.3c If the prices of resources and goods and services increased proportionally (by the same percent), would business firms be willing to expand output?
- A. Yes, since only the price of goods and services determines their supply.
 - B. No, since costs will rise with prices, there will be no profit incentive to increase output.
 - C. Yes, since the interest rate determines the incentive to produce greater output, and it would not be affected.
 - D. No, since lower interest rates will result, and decisions concerning output depend primarily on the interest rate.
 - E. Yes, since the higher resource prices will provide greater incentive by resource owners to find profitable uses for them.

- T11.4a Suppose that prices have been rising at a 2 percent annual rate in recent years. Based on the past inflation rates, major unions sign three-year contracts that include increases in money wage rates of 4 percent per year. If the price level grows at about one percent for each of the next three years, what will happen to the real wages of union members, real output in the economy, and the unemployment rate over that time period?
- A. Since the inflation rate is less than the wage increases, the real value of wages will rise. However, this will have no effect on real output or unemployment.
 - B. The real value of wages will not change. The output of the economy and the unemployment rate will also not be affected.
 - C. Since inflation is less than the wage increases, the real value of wages will rise. Higher real resource prices will cause a reduction in real output, and increased unemployment will result.
 - D. Since the inflation rate is less than the wage increases, the real value of wages will fall. Lower real resource prices will stimulate output and the unemployment rate will fall.
 - E. Since the inflation rate is less than the wage increases, the real value of wages will rise. The higher wages will encourage workers to supply more labor, so real output will increase and unemployment will fall.
- T11.4b Suppose that prices have been rising at a 2 percent annual rate in recent years. Based on the past inflation rates, major unions sign three-year contracts that include increases in money wage rates of 4 percent per year. If the price level rises at 6 percent for the next three years, what will happen to the real wages of union members, real output in the economy, and the unemployment rate over that time period?
- A. Since the inflation rate is more than the wage increases, the real value of wages will fall. However, this will have no effect on real output or unemployment.
 - B. The real value of wages will not change. The output of the economy and the unemployment rate will also not be affected.
 - C. Since inflation is more than the wage increases, the real value of wages will fall. Lower real resource prices will discourage workers from supplying labor, thus causing a reduction in real output, and increased unemployment will result.
 - D. Since the inflation rate is less than the wage increases, the real value of wages will fall. Lower real resource prices will stimulate output and the unemployment rate will fall.
 - E. Since the inflation rate is more than the wage increases, the real value of wages will fall. The lower real resource prices will give producers incentives to supply more output and unemployment will fall.
- T11.5 If the actual rate of unemployment is less than the natural rate, can this situation be sustained over a long period of time?
- A. Yes, since there will be a “snowball effect” of low unemployment creating greater output, further increasing the use of labor and other resources.
 - B. Yes, since then we would be at sustainable potential GDP.
 - C. No, since there will be upward pressure on real resource prices since resources are being so fully utilized. Eventually, the higher resource prices will lead to reduced output, increasing unemployment to the natural rate.
 - D. Yes, since actual unemployment can be higher than the natural rate only if the economy is in a long-run equilibrium called sustainable full employment.
 - E. No. In fact, the actual rate of unemployment can never really be less than the natural rate. The natural rate is the minimum amount of unemployment that the economy can experience.

- T11.6 Suppose the price level in the current period is higher than what buyers and sellers anticipated. What will be true of real wages, real interest rates, and the level of employment in the short run, compared to their long run levels?
- A. Real wages will be lower, real interest rates will be lower, and employment will be low (unemployment will be higher than the natural rate).
 - B. Real wages will be lower, real interest rates will be lower, and employment will be high (unemployment will be lower than the natural rate).
 - C. Real wages will be higher, real interest rates will be higher, and employment will be low (unemployment will be higher than the natural rate).
 - D. Real wages will be higher, real interest rates will be higher, and employment will be high (unemployment will be lower than the natural rate).
 - E. Real wages will be lower, real interest rates will be lower, and employment will be at normal levels (unemployment will be equal to the natural rate).
- T11.7 What is the relationship between the long-run equilibrium rate of output, the potential real GDP of the economy, and the output rate that equates the actual and natural rates of unemployment?
- A. Long run equilibrium output is the potential real GDP plus the output that equates natural and actual unemployment.
 - B. Long run equilibrium output is the potential real GDP plus a growth rate based on inflation. The output that equates natural and actual GDP is the same as potential GDP.
 - C. Potential real GDP is the long run equilibrium output plus a growth rate based on inflation. The output that equates natural and actual GDP is the same as potential GDP.
 - D. Long run equilibrium output is the potential real GDP plus a growth rate based on inflation. The output that equates natural and actual GDP is the same as long run equilibrium GDP.
 - E. All three are equal to one another.

- T11.8. The following table shows the aggregate demand (AD) and short-run aggregate supply (SRAS) in terms of real GDP desired and real GDP supplied at various price levels. Both buyers and sellers base their demand or supply of goods on an anticipated price level of $P = 100$.

real GDP AD ₁₀₀	Price Level	real GDP SRAS ₁₀₀
6,000	90	4,800
5,800	95	5,000
5,600	100	5,200
5,400	105	5,400
5,200	110	5,600
5,000	115	5,800

- T11.8a. Based on the table above, GDP that will be produced during this period is
 A. 6,000 B. 5,400 C. 5,800 D. 5,200 E. 5,600
- T11.8b. Based on the table above, will the answer you gave in the previous question be a long run equilibrium?
 A. Yes, because aggregate demand equals aggregate supply.
 B. Yes, because the price level equals that which is expected.
 C. No, because aggregate demand does not equal aggregate supply.
 D. No, because the price level is not what was expected.
 E. We cannot tell without more information.
- T11.8c. Based on the table above, what will be the relationship between the actual and natural rates of unemployment during this period?
 A. Actual unemployment will exceed the natural rate.
 B. Actual unemployment will be less than the natural rate.
 C. Actual unemployment will be more than the natural rate for a time, but will return to it eventually.
 D. Actual unemployment will equal the natural rate.
 E. We cannot tell without more information.
- T11.8d. Based on the table above, is the equilibrium sustainable?
 A. Yes, since aggregate demand equals aggregate supply.
 B. No, since aggregate demand does not equal aggregate supply.
 C. Yes, since the actual rate of unemployment is equal to the natural rate.
 D. No, since the actual rate of unemployment exceeds the natural rate.
 E. No, since the actual rate of unemployment is less than the natural rate.

- T11.9 The following table shows the aggregate demand (AD) and short-run aggregate supply (SRAS) in terms of real GDP desired and real GDP supplied at various price levels. Both buyers and sellers base their demand or supply of goods on an anticipated price level of $P = 110$.

real GDP AD ₁₁₀	Price Level	real GDP SRAS ₁₁₀
5,500	90	4,300
5,700	95	4,500
5,500	100	4,700
5,300	105	4,900
5,100	110	5,100
4,900	115	5,300

- T11.9a. Based on the table above, GDP that will be produced during this period is
 A. 4,900 B. 5,100 C. 5,300 D. 5,500 E. 4,700
- T11.9b. Based on the table above, will the answer you gave in the previous question be a long run equilibrium?
 A. Yes, because aggregate demand equals aggregate supply.
 B. Yes, because the price level equals that which is expected.
 C. No, because aggregate demand does not equal aggregate supply.
 D. No, because the price level is not what was expected.
 E. We cannot tell without more information.
- T11.9c. What will be the relationship between the actual and natural rates of unemployment during this period?
 A. Actual unemployment will exceed the natural rate.
 B. Actual unemployment will be less than the natural rate.
 C. Actual unemployment will be less than the natural rate for a time, but will return to it eventually.
 D. Actual unemployment will equal the natural rate.
 E. We cannot tell without more information.
- T11.9d. Is the equilibrium sustainable?
 A. Yes, since aggregate demand equals aggregate supply.
 B. No, since aggregate demand does not equal aggregate supply.
 C. Yes, since the actual rate of unemployment is equal to the natural rate.
 D. No, since the actual rate of unemployment exceeds the natural rate.
 E. No, since the actual rate of unemployment is less than the natural rate.

Answers and Explanations

- 11.1 A. Demand for resources is derived from or based on the demand for the goods they produce. Higher demand means higher wages.
- 11.2 E. Demand for resources is derived from or based on the demand for the goods they produce
- 11.3 A. More workers willing to take lower wage to work the same number of hours means that more hours will be worked at each wage. This is an increase in supply.
- 11.4 C. Higher opportunity costs (such as the option of going to school) will lower supply.
- 11.5 B. Demand for resources is derived from or based on the demand for the goods they produce.
- 11.6 B. Higher wages means higher costs, to at least some degree. It may also mean that Producers (employers) will substitute other resources for the more expensive one, but this can't be done completely.
- 11.7 D. The willingness of employers to buy labor and the willingness of workers to sell it (demand and supply) ultimately determine the wage or price of labor.
- 11.8 A. Capital is a complement to labor. As labor becomes more productive, its demand will increase, raising wages.
- 11.9 D. The interest rate is a price (the "rent" on borrowed money), and is determined by buyers and sellers (of loans). People who have money to lend must have saved it at some point rather than spending it.
- 11.10 A. See 11.9
- 11.11 D.
- 11.12 A. Anything that increases the savings of people will mean they have money to deposit in banks and otherwise lend out. This increase in the supply of money that can be lent out will reduce the price (interest rate).
- 11.13 A. Anything that decreases the savings of people will decrease the supply of money that can be lent out and will raise the price (interest rate).
- 11.14 C. When the government sells bonds, it is borrowing money. This raises the demand for loans, and thus increases the market interest rate. Also, the increased supply of bonds will lower bond prices, and bond prices are inversely related to interest rates. This also indicates that interest rates will rise.
- 11.15 C. The interest rate that a person can earn tells them how much each dollar they either borrow or save (lend) today will become in the future. This enables planning over time, and allows us to make decisions that involve costs and benefits that will affect us many years in the future (when we pay back our loans or get back our savings).
- 11.16 B. If savers have less money to save after making purchases, the supply of loans will fall, raising the interest rate.
- 11.17 B. If borrowers have to borrow more money to make purchases, the demand for loans will rise, raising the interest rate.
- 11.18 D
- 11.19 B. If it takes fewer Mexican Pesos to buy one dollar, it also costs fewer Pesos to buy each good that has its price in dollars.
- 11.20 D. A higher demand for U.S. goods causes a higher demand for the dollars to buy those goods. The higher demand for dollars will raise the price of dollars (which is the exchange rate).
- 11.21 C. Falling real interest rates make it easier for consumers to purchase goods and services.
- 11.22 D. Higher inflationary expectations induce consumers to make purchases in the short term, before inflation hits.

- 11.23 E As the value of the currency falls, domestic goods look cheaper to foreign buyers.
- 11.24 C Higher real interest rates will make it more difficult for consumers to make purchases.
- 11.25 D Optimism about the economy will encourage buyers to make purchases with the confidence that they will be able to pay for them.
- 11.26 A Optimism affects aggregate demand (primarily by encouraging consumers).
- 11.27 D Higher anticipated inflation will most likely increase aggregate demand. It may also tend to reduce aggregate supply, but this effect is not as great.
- 11.28 A Higher real interest rates make it harder for consumers to make purchases.
- 11.29 A More resources would increase LRAS. The resulting increase in the supply of resources will also reduce resource prices, increasing SRAS.
- 11.30 C This is why the short run aggregate supply curve slopes up.
- 11.31 A If the expected rate of inflation falls, producers will be encouraged to increase production before profit margins drop. This effect may not be very large, but B, C, and D will reduce aggregate supply, and E will increase aggregate demand (and probably will not affect supply at all).
- 11.32 A Lower prices of resources will enable producers to increase output at every price level.
- 11.33 D The changes listed in A, C and (perhaps) E will tend to reduce aggregate supply in the short run. B will not affect aggregate supply, since changes in the price level will cause a movement along the aggregate supply curve.
- 11.34 A Higher resource prices reduce aggregate supply in the short run. E will increase aggregate supply, if it has any effect, and so will D. C will affect aggregate demand. B does not change either demand or supply.
- 11.35 E Reduction in available resource will reduce long run aggregate supply.
- 11.36 A B will reduce aggregate supply. E will affect aggregate demand. C and D will not affect any of the curves.
- 11.37 A Moving the aggregate demand to the left will reduce both the price level and the real GDP.
- 11.38 C Moving the aggregate demand to the left would move the short run equilibrium down and to the left, so real GDP would fall and the price level would also fall.
- 11.39 E Moving the aggregate demand to the right would move the short run equilibrium up and to the right. Thus, real GDP would increase and the price level would rise.
- 11.40 C Moving the aggregate demand to the left would move the short run equilibrium down and to the left, so real GDP would fall and the price level would also fall. Employment would fall and unemployment would rise.
- 11.41 E Moving the short run aggregate supply to the left would move the short run equilibrium up and to the left, so real GDP would fall and the price level would rise. Employment would fall and unemployment would rise.
- 11.42 C Moving the short run aggregate supply to the right would move the short run equilibrium down and to the right, so real GDP would rise and the price level would fall. (Employment would rise and unemployment would fall.)
- 11.43 B If the price level falls and real output (real GDP) is falling, then the short run equilibrium has moved down and to the left. For this to happen, the aggregate demand curve must have moved to the left.
- 11.44 A If the price level falls and real output (real GDP) is rising, then the short run equilibrium has moved down and to the right. For this to happen, the short run aggregate supply curve must have moved to the right.

- 11.45 D If the price level rises and real output (real GDP) is rising, then the short run equilibrium has moved up and to the right. For this to happen, the aggregate demand curve must have moved to the right.
- 11.46 C If the price level rises and real output (real GDP) is falling, then the short run equilibrium has moved up and to the left. For this to happen, the short run aggregate supply curve must have moved to the left.
- 11.47 E Increasing the supply of loanable funds will lower real interest rates, which will increase aggregate demand and cause the other changes mentioned.
- 11.48 E Optimism will probably move the aggregate demand curve to the right, which increases the price level and increases real GDP (output) in the short run.
- 11.49 A. A decrease of optimism in the economy will move the aggregate demand curve to the left. The short run equilibrium will move down and to the left, indicating a decrease in the price level and decrease in real GDP (output).
- 11.50 C A fall in real interest rates will probably move the aggregate demand curve to the right, which increases the price level and increases real GDP (output) in the short run equilibrium.
- 11.51 E A fall in real interest rates will probably move the aggregate demand curve to the right, which increases the price level and increases real GDP (output) in the short run equilibrium. None of the specified choices describe this.
- 11.52 B A decrease in inflation expectations will move the aggregate demand curve to the left. The short run equilibrium will move down and to the left, indicating a decrease in the price level and decrease in real GDP (output).
- 11.53 C Optimism will probably move the aggregate demand curve to the right, which increases the price level and increases real GDP (output) in the short run.
- 11.54 C A decrease in the wealth of investors will reduce their wealth as consumers. This will move the aggregate demand curve to the left. The short run equilibrium will move down and to the left, indicating a decrease in the price level and decrease in real GDP (output). Smaller output will raise unemployment.
- 11.55 B A fall in consumer wealth will move the aggregate demand curve to the left. The short run equilibrium will move down and to the left, indicating a decrease in the price level and decrease in real GDP (output).
- 11.56 B A rise in the value of the dollar will make U.S. goods cost more in other countries' money (since each dollar costs more of their money). This will move the aggregate demand curve to the left. The short run equilibrium will move down and to the left, indicating a decrease in the price level and decrease in real GDP (output). Smaller output will raise unemployment.
- 11.57 B An increase in interest rate will make it harder for consumers to make purchases. This will move the aggregate demand curve to the left. The short run equilibrium will move down and to the left, indicating a decrease in the price level and decrease in real GDP (output).
- 11.58 C A fall in real interest rates will probably move the aggregate demand curve to the right, which increases the price level and increases real GDP (output) in the short run equilibrium.
- 11.59 D Weather and natural conditions will constitute unfavorable supply shocks, moving the short run aggregate supply curve to the left. The short run equilibrium will move up and to the left, causing an increase in the price level and reduction in real GDP.
- 11.60 A Lower resource prices will move the short run aggregate supply curve to the right. This will move the equilibrium downward and to the right, resulting in a lower price level and higher real output.

- 11.61 D Higher resource prices (such as oil prices) will move the short run aggregate supply curve to the left. This will move the equilibrium upward and to the left, resulting in a higher price level and lower real output
- 11.62 B Inflationary expectations move the aggregate demand curve to the right. If this is a permanent change in expectations, then the long run equilibrium will be affected as well as the short run. However, since the long run aggregate supply is vertical, the new long run equilibrium will not involve any changes in real output; only the price level will change in the long run as the aggregate demand moves to the right, and to a higher intersection point on the long run aggregate supply curve.
- 11.63 D Reduced inflationary expectations move the aggregate demand curve to the left. If this is a permanent change in expectations, then the long run equilibrium will be affected. However, since the long run aggregate supply is vertical, the new long run equilibrium will not involve any changes in real output; only the price level will change in the long run as the aggregate demand moves to the left, and to a lower intersection point on the long run aggregate supply curve.
- 11.64 D As real interest rates rise (assuming they are not rising due to inflation), the aggregate demand curve will move to the left. If this is a permanent change, then the long run equilibrium will be affected. However, since the long run aggregate supply is vertical, the new long run equilibrium will not involve any changes in real output; only the price level will change in the long run as the aggregate demand moves to the left, and to a lower intersection point on the long run aggregate supply curve.
- 11.65 B Higher consumer income will move the aggregate demand curve to the right. If this is a permanent change, then the long run equilibrium will be affected as well as the short run. However, since the long run aggregate supply is vertical, the new long run equilibrium will not involve any changes in real output; only the price level will change in the long run as the aggregate demand moves to the right, and to a higher intersection point on the long run aggregate supply curve.
- 11.66 D If the supply of resources increases, the long run aggregate supply curve will move to the right (the short run aggregate supply moves right also). The new long run aggregate supply intersects the aggregate demand curve to the right and below the original equilibrium. This means that the price level will fall and the real output will increase.
- 11.67 D Lower oil prices will move the short run aggregate supply curve to the right. The short run equilibrium will thus move down and to the right, resulting in a lower price level and higher real output.
- 11.68 A Higher oil prices will move the short run aggregate supply curve to the left. The short run equilibrium will thus move up and to the left, resulting in a higher price level and lower real output.
- 11.69 C The short run equilibrium level of real GDP can be greater than the long run sustainable level, which will result in less actual unemployment than the natural rate. However, since the employment is greater than normal, labor and other resource prices will be pushed upward. Eventually, the higher resource prices will reduce employment, restoring the long run equilibrium.
- 11.70 A Operating at less than full capacity means the economy has some unemployed resources that would normally be employed. This occurs when the demand for resources is low. The lower demand for resources will eventually reduce resource prices, reducing the quantity supplied while encouraging their use once again. This will begin restoring equilibrium, as the short run aggregate supply will move to the right.
- 11.71 A If the price level rises, real resource prices will seem smaller (since they not gone up in dollar terms, but each dollar is worth less than before). This is why business will increase output in the short run when the price level rises, resulting in an upward-sloping aggregate supply curve.

- 11.72 B If the U.S. price level rises (and *ceteris paribus*, the price levels of other countries do not), U.S. goods will appear more expensive than goods from other countries. This will reduce the quantity of U.S. goods that consumers (domestic and foreign) desire, since they will substitute goods from other countries. This is one reason why the aggregate demand curve slopes down.
- 11.73 E If the prices of goods and services rise, it may take a while for the costs of resources used to make the goods and services to start rising (due to contracts and other restrictions). Until the resource prices catch up to the higher prices of product, businesses will find they are making much more money by selling goods than they are paying to buy resources to make the goods.
- 11.74 D If the U.S. price level rises (and *ceteris paribus*, the price levels of other countries do not), U.S. goods will appear more expensive than goods from other countries. This will reduce the quantity of U.S. goods that consumers (domestic and foreign) desire, since they will substitute goods from other countries. This is one reason why the aggregate demand curve slopes down.
- 11.75 D In the long run equilibrium, people's expectations about the price level and inflation rate must be correct. People have had time to adjust to whatever the price level is doing, and to change their decisions accordingly. In other words, there is no unanticipated inflation. Answer D implies that the real interest rate is zero, which is unlikely, and certainly not necessary for equilibrium. All of the other answers imply that workers and others are not making mistakes resulting from wrongly predicting the price level. Answer B reveals this, since if workers underestimated the price level, they would be willing to work for lower real wages than normal, and the economy's output would exceed the full employment output (more workers would work than in the long run). C follows from B, since if the economy is not employing more (or fewer) workers than the long run potential GDP requires, there is no less (or more) unemployment than the economy experiences at the natural rate of unemployment. E is a requirement of short run equilibrium, but must still be true in the long run as well.
- T11.1a C This question is asking why the aggregate demand curve slopes down. When the price level is lower, the purchasing power of any given amount of cash will be higher. This has the effect of making people wealthier if they have any money saved somewhere. This also means they can afford to buy more goods and services. A and B are the opposite of the truth, and D does not necessarily happen in any predictable way. E is wrong, because the downward-sloping aggregate demand deals with the general level of prices, not any particular goods' prices.
- T11.1b B This question is asking why the aggregate demand curve slopes down. When the price level falls, the amount of dollars that savers can afford to save will go up (since the items they buy will cost less, so they will have more money left over after making necessary purchases). Also, borrowers will find that they do not have to borrow as much money to buy the same items. The increase in supply of loanable funds, together with the decrease in demand for those funds, will result in a lower real interest rate, thus enabling consumers to borrow more money to buy goods and services.
- T11.2a B Since, in the long run, all decisions will be made with full and accurate consideration of the actual price level, producers will find no reason to increase output when product prices rise, since their costs rise by the same proportions. The producers will be limited by such things as the amount of resources available and the technologies they can use, but the overall price level will have no effect on these factors in the long run.
- T11.2b E The price level will not affect long run output (see T11.2a). Since costs rise as prices rise in the long run, there will be no extraordinary profits in the long run to cause production to increase. The real income of consumers may affect aggregate demand, but it does not affect the long run ability of the economy to produce products. The same is true of the real interest rate. Of all the answers listed, only the availability of resources can change the amount of real goods and services that can be produced in the long run.

- T11.2c D The price level will not affect long run output (see T11.2a). Since costs rise as prices rise in the long run, there will be no extraordinary profits in the long run to cause production to increase. The real income of consumers may affect aggregate demand, but it does not affect the long run ability of the economy to produce products. The same is true of the real interest rate. Of all the answers listed, only the ability to apply technology to the available resources can change the amount of real goods and services that can be produced in the long run.
- T11.2d E In the long run, resource prices will have enough time to keep up with changes in the price level. Unlike the situation in the short run, there will be no discrepancy between product (goods and services) prices and resource costs to compel producers to increase their production. This characteristic of the long run means that A and B are incorrect. The real income of consumers may affect aggregate demand, but it does not affect the long run ability of the economy to produce products. The same is true of the real interest rate. Of all the answers listed, only the institutions (laws and infrastructure) that enable efficient use of resources can change the amount of real goods and services that can be produced in the long run.
- T11.2e B In the long run, interest rates and resource prices have a chance to fully adjust to the price level. Given enough time, higher product prices simply raise nominal wages and interest rates enough that there is no gain for producers if they increase output as the price level rises. In the short run, there isn't enough time for resource prices and interest rates to keep up with product prices, so higher product prices can increase producers' profits and enable them to increase production.
- T11.3a C In the short run, resource prices (including wages) cannot rise as quickly as the prices of goods and services, because of contracts and other commitments binding resource suppliers. Producers of goods and services will see the prices of their products rise, but will not see their costs rising in the short run. This provides them with an opportunity to increase profit by increasing production in the short run.
- T11.3b C See 11.3b
- T11.3c B This is what is thought to happen in the long run, when contracts can be re-negotiated and decision makers can fully change their decisions in response to the price level.
- T11.4a C Producers in the economy will find that the cost of labor is higher in real terms than they expected it to be. Also, the low inflation means that producers will have to sell their products for lower prices than they might have planned to. Together, these will decrease profits and cause producers to reduce employment and production.
- T11.4b E Producers in the economy will find that the cost of labor is lower in real terms than they expected it to be. Also, the higher inflation means that producers will be able to sell their products for higher prices. Together, these will increase profits and encourage greater employment and production.
- T11.5 C If, because decision makers expect a lower price level than actually emerges, more labor and other resources are utilized than would be the case normally (in the long run), the situation can only be temporary. As workers and other resource sellers become aware of the situation, they will gradually change their willingness to supply resources and re-negotiate contracts to reflect the higher nominal wages the higher price level justifies. This will cause producers to reduce their purchases of resources and their production as the process continues.

- T11.6 B When people agree to take a job or lend money, they agree to a nominal wage or a nominal interest rate. The real value of something, such as a wage, is the money or nominal value with inflation taken out (dividing out the price level). In the long run, people have a chance to correct any mistaken predictions they have about inflation and the price level, but this is not true in the short run. If, in the short run, the actual price level is higher than people expected, real wages and interest rates will be lower than people expected them to be (instead of dividing out a small price level from the nominal value, we need to take out a big price level factor to get the real value). Since the real wages and interest rates are lower than people expected them to be, businesses will have lower costs and higher profits than they would have if everyone had guessed correctly about inflation. Thus, businesses will be hiring more workers and buying more resources than they would normally use. This leads to lower unemployment than the normal, long run, natural rate. In the long run, when all expectations about the price level have been corrected, the real wage and real interest rate will go back up to their normal levels, and employment will fall back to the full employment rate (with unemployment at the natural rate).
- T11.7 E When the economy is at long run equilibrium, the actual rate of unemployment is equal to the natural rate. The long run equilibrium GDP is also called the potential GDP of the economy.
- T11.8a B To answer this question, you need to find the price level at which the quantity of real goods and services demanded in the economy equals the quantity of real goods and services supplied (or where AD equals SRAS). This occurs at a price level of 105, and the quantity (of real GDP) at this (short run) equilibrium is 5,400.
- T11.8b D The short run price level that equates AD to SRAS is 105. This is not the price level that consumers, producers and resource sellers anticipated when the AD and SRAS were “created.” They all anticipated that the price level would be 100, which is lower than the price level they actually will experience. Since the equilibrium price level is not consistent with the price level decision makers anticipated, they will change their behavior and revise their decisions. This means that the short run equilibrium we found in T11.8a will not be the long run equilibrium.
- T11.8c B Since the price level is higher than decision makers expected it to be, the prices of goods and services are higher than producers expected. This means they can increase profits by producing more goods and services. Since resource suppliers also expected a lower price level when they agreed to supply labor and other resources, many of them agreed to supply resources at lower prices (and wages) than they would have asked for if they had been correct in their predictions of the price level. In a way, the resource sellers were fooled into selling more resources than they would have sold if they had correct information about the price level. Since more resources are being used and sold than would normally be the case, the actual level of unemployment is less than the natural rate.
- T11.8d E Since the price levels are higher than decision makers anticipated, they will have to revise their decisions to take the higher price level into account. Suppliers of resources, such as labor, will ask for greater payment to reflect the higher prices of goods and services. Eventually, this will result in fewer resources being bought and used. However, in the short run, the resource suppliers are committed, through contracts and other arrangements, to continue to supply resources at lower prices than they would like. Since they are now selling more resources than they would decide to sell in the long run, and producers are using more resources than they would use in the long run, the present situation is not sustainable. It is a temporary, short run equilibrium only. The economy is using more resources than it will in the long run (unemployment is less than the natural rate).
- T11.9a B To answer this question, you need to find the price level at which the quantity of real goods and services demanded in the economy equals the quantity of real goods and services supplied (or where AD equals SRAS). This occurs at a price level of 110, and the quantity (of real GDP) at this (short run) equilibrium is 5,100.

- T11.9b B The short run price level that equates AD to SRAS is 110. This is the price level that consumers, producers and resource sellers anticipated when the AD and SRAS were “created.” Since the equilibrium price level is consistent with the price level decision makers anticipated, there is no reason for any of them to change their behavior. This makes it a long run equilibrium (as well as a short run equilibrium).
- T11.9c D Since the economy is in a long run equilibrium, the use of resources matches the long run capacity of the economy. The only unemployed resources are those that are unemployed due to information costs and the usual structural changes that always occur in the economy. Unemployment will be at the natural rate.
- T11.9d C The long run equilibrium, with unemployment at the natural rate is sustainable, since there are no forces (such as resource price changes, or changes in inflationary expectations) that will occur to alter the current equilibrium. Until other things change in the economy, the equilibrium will continue.

Chapter 12

General Multiple-Choice Questions

- 12.1 Money promotes efficiency because it
- A. reduces the search costs associated with finding a trading partner.
 - B. encourages specialization by enabling trade (instead of production by everyone for his own use).
 - C. reduces the information costs associated with trade, such as having to learn prices for several items.
 - D. all of the above
 - E. none of the above
- 12.2 Money, according to our definition,
- A. has to be backed by something valuable, such as gold or silver.
 - B. does not have to be generally accepted in payment of obligations.
 - C. can include credit.
 - D. has to be issued by government.
 - E. none of the above.
- 12.3 Money, according to our definition,
- A. need not be in common use.
 - B. is generally accepted to pay debt.
 - C. has to be issued by government.
 - D. does not need to be useful to pay off obligations.
 - E. needs to be backed up by gold.
- 12.4 Which of the following has (have) functioned as money?
- A. gold
 - B. tobacco
 - C. rocks
 - D. cattle
 - E. all of these
- 12.5 Money has to be based on, backed by, or redeemable in
- A. tobacco
 - B. gold
 - C. silver
 - D. stocks
 - E. none of these
- 12.6 Which of the following is not a function of money
- A. Unit of Account
 - B. Medium of Exchange (Means of Payment)
 - C. Store of Value
 - D. Provider of Peace and Security
 - E. Standard of Deferred Payments
- 12.7 Which characteristics would not be especially important or practical for the thing used as money?
- A. Stable Value
 - B. Portability
 - C. Durability
 - D. Divisibility
 - E. Squiggly Lines and Pictures of Dead People
- 12.8 M1 money in our society includes
- A. vault cash of commercial banks
 - B. cash held by private citizens
 - C. deposits of commercial banks in the Federal Reserve Bank
 - D. saving account deposits of private citizens and businesses in banking institutions
 - E. U.S. Government bonds

- 12.9 The M1 definition of money in our society includes
- A. bonds held by the public
 - B. checking account deposits
 - C. cash in the vaults of banks
 - D. deposits of banks at the Fed
 - D. savings accounts
- 12.10 Which of the following do not appear in either M1 or M2, the two main definitions of money?
- A. Currency issued by the Government
 - B. Private checking account deposits
 - C. Saving account deposits by individuals
 - D. U.S. Government Bonds
 - E. all of these appear in M1 or M2
- 12.11 Money in checking accounts
- A. is not considered part of the money supply.
 - B. is a component of the M1 definition of money.
 - C. is not accepted in exchange for goods and services.
 - D. is backed by the U.S. Treasury.
 - E. none of the above.
- 12.12 When you take money out of your savings account and put it into your checking account, what is the result?
- A. Currency rises, and real output will be affected.
 - B. M1 will rise, M2 will fall.
 - C. M1 will fall, M2 will rise.
 - D. M1 will stay the same, M2 will fall.
 - E. M1 will rise, M2 will stay the same.
- 12.13 Creation of money in our economy is directly performed by
- A. the Treasury Department
 - B. the Bureau of Engraving
 - C. banking institutions.
 - D. the Federal government
 - E. the Congress of the United States
- 12.14 The ability of the banking system to create money ("out of thin air"--snap) is determined by which of the following?
- A. excess reserves
 - B. the required reserve ratio
 - C. interest rates
 - D. A and B
 - E. A and C
- 12.15 One component of actual reserves of modern banks in the U. S. is
- A. U. S. government bonds owned by commercial banks
 - B. cash held by private citizens
 - C. deposits of commercial banks in the Federal Reserve Bank
 - D. demand deposits of private citizens in commercial banks
 - E. M1 (money)
- 12.16 One component of actual reserves of modern banks in the U. S. is
- A. vault cash of commercial banks
 - B. cash held by private citizens
 - C. loans made by commercial banks to businesses and individuals
 - D. demand deposits of private citizens in commercial banks
 - E. M1 (money)

- 12.17 For the following, r signifies the required reserve ratio, DD represents demand deposits, ER represents excess reserves, AR represents actual reserves, and RR represents required reserves. The maximum amount of loans (L) that the entire banking system can make is given by the formula
- A. $L = (ER)(r)$ B. $L = (DD)(r)$ C. $L = AR - RR$ D. $L = ER/r$ E. $L = DD/r$
- 12.18 A reserve requirement of 10%
- A. implies a potential money deposit multiplier of 1.
B. implies that the discount rate must be 10%.
C. Implies that the Federal Funds Rate will be 10%.
D. Implies that the Prime Lending Rate will be 10%.
E. implies a potential money deposit multiplier of 10.
- 12.19 The larger the reserve requirement
- A. the larger the potential deposit multiplier.
B. the smaller the potential deposit multiplier.
C. the more profit banks can make.
D. the larger the proportion of an additional deposit that will be available for banks to make additional loans.
E. the smaller the discount rate is.
- 12.20 As bank expansion proceeds, what is true about the banking system? (Assume no cash drain)
- A. excess reserves become larger. B. actual reserves become larger.
C. actual reserves become smaller. D. excess reserves become smaller.
E. required reserves become smaller.
- 12.21 Suppose a bank with no initial excess reserves received a demand deposit of \$5000 that created excess reserves of \$4000. What was the required reserve ratio?
- A. 20% B. 10% C. 15% D. 25% E. 80%
- 12.22 The required reserve ratio is 10%, banks hold 5% of the amount of demand deposits as excess reserves, and currency leakage (representing the proportion of new demand deposits which people withdraw as cash) is 5%. What is the deposit expansion multiplier?
- A. 10 B. more than 10 C. less than 10 D. 0 E. infinite.
- 12.23 Ceteris paribus, the desired currency ratio will rise...
- A. if people's incomes rise.
B. if the tax rate is increased.
C. if interest rates on checkable deposits fall.
D. if there are more muggings.
E. if electronic banking and checking becomes easier.
- 12.24 Consider an individual bank in a large banking system. If the required reserve ratio is .2, the bank has Actual Reserves of 10,000, and its Demand Deposit liabilities are already 20,000, we know that the amount of loans it can safely make is at least
- A. zero B. 10,000 C. 2,000 D. 4,000 E. 6,000
- 12.25 Creation of money in our economy is controlled by
- A. the Treasury Department B. the Bureau of Engraving C. banking institutions.
D. the Federal Reserve Bank E. the Congress of the United States
- 12.26 What is the principal tool of the Federal Reserve Bank?
- A. the required reserve ratio B. the rediscount rate C. the prime interest rate
D. the actual reserve ratio E. open market operations

- 12.27 The discount rate is the interest rate that
- A. commercial banks charge their low-risk customers.
 - B. savings and loan associations pay for the use of saving deposit funds.
 - C. the U.S. Treasury pays individuals who purchase Government bonds in denominations of \$10,000 or more.
 - D. the Federal Reserve charges banks that borrow reserves from the Fed.
 - E. banks charge other banks that borrow reserves from them.
- 12.28 A tool that is not used by the Fed to control the money supply is
- A. open market operations
 - B. the discount rate
 - C. the Prime Lending interest rate
 - D. buying and selling of bonds
 - E. the required reserve ratio
- 12.29 If the Fed wants to slow the growth rate of the money supply, what could it do?
- A. lower the required reserve ratio
 - B. sell bonds
 - C. raise the prime rate
 - E. lower the discount rate
 - E. all of the above might work
- 12.30 If the Fed wants the supply of money in the economy to rise, what could it do?
- A. lower the required reserve ratio
 - B. sell bonds
 - C. lower the prime rate
 - D. raise the discount rate
 - E. either A or C
- 12.31 The Fed sells \$2 million of bonds to an investor, who pays for them with a briefcase filled with currency (which already exists, presumably). What will happen to the monetary base (actual reserves plus cash held by the public)?
- A. Nothing.
 - B. It will increase in size.
 - C. It will fall in size.
 - D. We need more information.
 - E. It will be closed due to the budget crunch.
- 12.32 Which of the following combinations of events is most likely to result in a fall in the money supply?
- A. An increase in the cash holdings of the public (as a proportion of their money holdings) and a purchase of bonds by the Fed.
 - B. An increase in the cash holdings of the public (as a proportion of their money holdings) and a reduction in the reserve requirements.
 - C. An increase in reserve requirements and an increase in the excess reserve ratio (excess reserves that banks choose to maintain)
 - D. An increase in excess reserve ratio and a fall in the cash holdings of the public.
 - E. A reduction in the discount rate and a fall in the cash holdings of the public.
- 12.33 Which of the following events is most likely to result in a fall in the money supply?
- A. A sale of bonds by the Fed.
 - B. A reduction in the reserve requirements.
 - C. A reduction in the discount rate.
 - D. A fall in the desired currency ratio (the portion of the money supply that the public holds as cash).
 - E. A reduction in banks' desire to hold excess reserves.
- 12.34 The Fed buys \$100 million in bonds and also lowers the reserve requirement for all deposits. What effect do you anticipate?
- A. The money supply will fall.
 - B. The monetary base will fall.
 - C. The multiplier will fall.
 - D. The money supply will rise.
 - E. The desired currency ratio will rise.

- 12.35 Thorpe National Bank borrows \$1 million from the Fed and uses the proceeds to buy \$1 million worth of bonds from the Fed. What happens to the Thorpe National Bank (relative to the initial situation, before the loan)?
- A. It no longer has to pay back the discount loan.
 - B. Its actual reserves are increased.
 - C. Its actual reserves are reduced.
 - D. Its actual reserves are unchanged.
 - E. It has more assets now than liabilities, and must borrow more from the Fed.
- 12.36 Which of the following would tend to lead to an increase in the money supply?
- A. A reduction in the discount rate.
 - B. An increase in reserve requirements.
 - C. Sale of government securities by the Fed.
 - D. Sale of US Government bonds by the Treasury to commercial banks.
 - E. The public decides to increase its holdings of cash and decreases its checking account deposits by an equal amount.
- 12.37 Suppose the required reserve ratio is 10% and all banks initially have no excess reserves. If the Fed sells \$5 million of U.S. securities to the public, the direct, immediate result will be
- A. an increase of \$4.5 million in the money supply.
 - B. an increase of \$5 million in the money supply.
 - C. a decrease of \$4.5 million in the money supply.
 - D. a decrease of \$5 million in the money supply.
 - E. no effect on the money supply.
- 12.38 Suppose the required reserve ratio is 10% and all banks initially have no excess reserves. If the Fed sells \$5 million of U.S. securities to the public (assume no excess reserves or cash leakages from the system), the eventual result will be
- A. a decrease of \$45 million in the money supply.
 - B. a decrease of \$50 million in the money supply.
 - C. a decrease of \$4.5 million in the money supply.
 - D. a decrease of \$5.0 million in the money supply.
 - E. an increase in the money supply.
- 12.39 If the Federal Reserve Bank wanted to expand the supply of money as part of an antirecessionary monetary policy, it might
- A. decrease reserve requirements
 - B. urge the Treasury to buy more U.S. securities
 - C. sell U.S. securities in the open market.
 - D. increase the discount rate.
 - E. lower the prime lending rate.
- 12.40 The Federal Reserve Bank regulates the money supply largely by
- A. regulating the volume of Federal Reserve notes issued, since these notes represent the major portion of the U.S. money supply.
 - B. regulating the extent to which the Treasury coins money.
 - C. regulating the amount of gold kept by the government in Fort Knox and other places.
 - D. affecting the amount of reserves held by private banks through open market policy.
 - E. using its power to set the reserve requirement.

- 12.41 Which of the following is correct?
- A. Federal Reserve purchases of securities put upward pressure on the discount rate.
 - B. Federal Reserve sales of securities reduce the reserves of banks.
 - C. The Federal Reserve notes in your wallet are an asset of the Federal Reserve Bank.
 - D. The Federal Reserve Bank controls the ratio of currency to demand deposits.
 - E. all of the above.
- 12.42 If government purchases exceed tax receipts, and the Treasury sells government securities to the public to cover the difference, then
- A. both the national debt and the money supply will rise.
 - B. the national debt will rise, but the money supply will not.
 - C. the national debt will not rise, but the money supply will.
 - D. neither the money supply nor the national debt will rise.
 - E. we cannot tell without more information.
- 12.43 If government purchases exceed tax receipts, and the Treasury sells government securities to the Fed to cover the difference, then
- A. both the national debt and the money supply will rise.
 - B. the national debt will rise, but the money supply will not.
 - C. the national debt will not rise, but the money supply will.
 - D. neither the money supply nor the national debt will rise.
 - E. we cannot tell without more information.
- 12.44 If the Fed sells government securities to the public, then
- A. both the national debt and the money supply will rise.
 - B. the national debt will rise, but the money supply will fall.
 - C. the national debt will not change, but the money supply will fall.
 - D. the national debt will not change, but the money supply will rise.
 - E. both the national debt and the money supply will fall.
- 12.45 When the Federal Reserve purchases government bonds from the public, it
- A. directly increases the amount of money and increases the reserves of the banking system.
 - B. directly increases the amount of money, while reducing the reserves of the banking system.
 - C. directly decreases the amount of money and decreases the reserves of the banking system.
 - D. directly decreases the amount of money, while increasing the reserves of the banking system.
 - E. does not directly affect the money supply, but increases the reserves of the banking system.

Multiple-Choice Based on Textbook's End-of-Chapter Questions

- T12.1 What is a liquid asset?
- A. oil
 - B. hard liquor
 - C. anything that can easily be converted to money without a loss of value
 - D. anything wet
 - E. any asset that can be sold
- T12.2 What determines whether or not a financial asset is included in the M1 money supply?
- A. M1 includes anything that people use to store value.
 - B. M1 includes only assets that people commonly use to make payments.
 - C. M1 includes only assets that people carry around with them.
 - D. M1 includes anything people can eventually access to make payments.
 - E. M1 includes anything of value, even if its value fluctuates daily.
- T12.3 Could money perform its function better if there were twice as much of it?
- A. Yes, since money is commonly used to pay debts, the more common it is, the better it will serve this function.
 - B. Yes, since it is a store of value, the more of it there is, the more value it can store.
 - C. Yes, since it is a unit of account, it will allow us to count prices better if there is more of it.
 - D. No, since more money would allow people to have it who do not deserve it.
 - E. No, since more money would simply lower its value relative to other assets; in fact, changing the amount of it quickly will make it less suitable for some of its functions.
- T12.4 "People are poor because they don't have very much money. Yet, central bankers keep money scarce. If people had more money, poverty could be eliminated." What is wrong with this statement?
- A. Central bankers don't control the amount of money, citizens do.
 - B. Central bankers don't control the amount of money, the banking system does.
 - C. The value of money lies in what it will buy. Simply producing more money will reduce the value of each dollar, and will not result in a greater total amount of goods available to the poor.
 - D. There is nothing wrong with the statement.
 - E. Poor people have lots of money.
- T12.5 If banks continue to hold reserves that are only a small fraction of the deposits of their customers,
- A. the money in the banks will be safe, as long as people remain confident that the banks are safe.
 - B. the banks will someday have to go out of business, since they don't have sufficient reserves.
 - C. the banks can only avoid going out of business if they borrow reserves or foreclose on loans.
 - D. the government will close the banks down eventually.
 - E. the banks will eventually have to increase their reserves, since they will not be able to obtain deposit insurance from the FDIC until they do so.
- T12.6a If you withdraw \$100 cash from your checking account, which of the following will occur?
- A. The actual reserves of your bank will fall by \$100.
 - B. The money supply immediately decreases by \$100.
 - C. The required reserves of your bank will fall by \$100.
 - D. The excess reserves of your bank fall by \$100.
 - E. All of the above.

- T12.6b If you withdraw \$100 cash from your checking account, which of the following will occur?
- A. The excess reserves of your bank fall by \$100.
 - B. The money supply immediately increases by \$100.
 - C. The required reserves of your bank will rise.
 - D. The actual reserves of your bank will fall by \$100.
 - E. All of the above.
- T12.6c If you withdraw \$100 cash from your checking account, which of the following will occur?
- A. The excess reserves of your bank fall by less than \$100.
 - B. The excess reserves of your bank fall by more than \$100.
 - C. The actual reserves of your bank will fall by less than \$100.
 - D. The actual reserves of your bank will fall by more than \$100.
 - E. None of the above.
- T12.7a Which of the following would increase the money supply?
- A. A reduction in the discount rate
 - B. An increase in the reserve requirements
 - C. Sale by the U.S. Treasury of \$100 million of newly issued bonds to a commercial bank
 - D. An increase in the discount rate
 - E. Sale by the Fed of \$200 million of U.S. securities to a private investor
- T12.7b Which of the following would decrease the money supply?
- A. A reduction in the discount rate
 - B. A decrease in the reserve requirements
 - C. Purchase by the Fed of \$100 million of U.S. securities from a commercial bank
 - D. Sale by the U.S. Treasury of \$100 million of newly issued bonds to a commercial bank
 - E. Sale by the Fed of \$200 million of U.S. securities to a private investor
- T12.7c Which of the following would not affect the money supply?
- A. A reduction in the discount rate
 - B. An increase in the reserve requirements
 - C. Purchase by the Fed of \$100 million of U.S. securities from a commercial bank
 - D. Sale by the U.S. Treasury of \$100 million of newly issued bonds to a commercial bank
 - E. An increase in the discount rate
- T12.8 "Budget deficits cause inflation. When the government spends more than it collects in taxes (a budget deficit), it simply prints more money. As a result, of the greater amount of money in existence, every dollar is worth less and will buy less. Thus, prices go up." This statement
- A. is correct.
 - B. is incorrect, since the government does not (in fact, can not) print money to pay its bills.
 - C. is incorrect, since more money does not always lead to inflation.
 - D. is incorrect, since the money supply is not usually increased by printing money, but by increasing bank deposits.
 - E. B, C, and D are all correct.

- T12.9 If the Fed does not take any action to counteract the event, what would eventually happen if the general public decided to hold more currency and decrease their checking deposits by the same amount?
- A. The money supply would not change, since currency and checking accounts are money.
 - B. The amount of money would increase by the amount of the additional currency held by the public.
 - C. The amount of money would increase by more than the amount of the additional currency held by the public.
 - D. The amount of money would decrease by the amount of the additional currency held by the public.
 - E. The amount of money would decrease by more than the amount of the additional currency held by the public.
- T12.10 If the Fed wants to expand the money supply, why is it more likely to do so by purchasing bonds rather than by lowering reserve requirements?
- A. Changing the reserve requirements will have drastic effects on the money supply, while purchasing bonds can be controlled more accurately.
 - B. Changing the reserve requirements will not actually change the money supply.
 - C. Changing the reserve requirements requires approval of Congress, and the Fed may not want to wait.
 - D. Changing the reserve requirements requires approval of the President, while the Fed can purchase bonds on its own.
 - E. Changing the reserve requirements will only impact the money supply if banks already have excess reserves.
- T12.11 Which of the following statements is true?
- A. All money we use is printed and issued by the U.S. Treasury.
 - B. When you deposit currency in a commercial bank, cash goes out of circulation, and so the money supply declines.
 - C. If the Treasury would create more money, Americans would have a higher standard of living.
 - D. Money is valuable because of what backs it up--gold in some countries, and government bonds in the United States.
 - E. If new reserves are created in the banking system, the money supply will increase by several times the amount of the new reserves.
- T12.12a The Fed buys \$100,000 worth of bonds from Mr. Gates, who deposits the payment in the First Really Cool National Bank. How will this transaction (alone) affect the money supply?
- A. The money supply will rise by less than \$100,000.
 - B. The money supply will rise by exactly \$100,000.
 - C. The money supply will rise by more than \$100,000.
 - D. The money supply will not be affected at all.
 - E. The money supply will fall, but we cannot be sure of how great the fall will be.
- T12.12b The Fed buys \$100,000 worth of bonds from Mr. Gates, who deposits the payment in the First Really Cool National Bank. How will this transaction and subsequent bank expansion affect the money supply?
- A. The money supply will rise by less than \$100,000.
 - B. The money supply will rise by exactly \$100,000.
 - C. The money supply will rise by more than \$100,000.
 - D. The money supply will not be affected at all.
 - E. The money supply will fall, but we cannot be sure of how great the fall will be.

- T12.12c The Fed buys \$100,000 worth of bonds from Mr. Gates, who deposits the payment in the First Really Cool National Bank. If the reserve requirement ratio is 20 percent, what is the maximum amount of additional loans that the Really Cool Bank will be able to extend as the result of Gate's deposit?
 A. \$20,000 B. \$2,000,000 C. \$100,000 D. \$80,000 E. none
- T12.12d The Fed buys \$100,000 worth of bonds from Mr. Gates, who deposits the payment in the First Really Cool National Bank. If the reserve requirement ratio is 20 percent, what is the maximum amount of additional bank deposits that might be created as the result of bank expansion and the Fed's action?
 A. \$20,000 B. \$2,000,000 C. \$500,000 D. \$100,000 E. none
- T12.13 Suppose that the reserve requirement is 10 percent and the balance sheet of the Really Nice Bank looks like the accompanying example.

Assets		Liabilities	
Vault Cash	20,000	Checking deposits	200,000
Deposits at Fed	30,000	Net worth	15,000
Securities	45,000		
Loans	120,000		

- T12.13a What are the required reserves and excess reserves of the Really Nice Bank?
 A. required reserves are \$5,000 and excess reserves are \$45,000
 B. required reserves are \$20,000 and excess reserves are \$180,000
 C. required reserves are \$20,000 and excess reserves are \$75,000
 D. required reserves are \$5,000 and excess reserves are \$70,000
 E. required reserves are \$20,000 and excess reserves are \$30,000
- T12.13b What is the maximum loan that the bank could extend (safely)?
 A. \$5,000 B. \$20,000 C. \$30,000 D. \$75,000 E. \$300,000
- T12.14 In the 1930s and the 1980s, there were major failures of many large and small banking institutions. Examining the bank failures of the 1980s and 1930s, show us
 A. that they all had the same causes. Specifically, fear and lack of confidence in the banking system.
 B. that the failures of the 1980's were due to poor investments by banks and the incentives for risky investments that deposit insurance programs gave them. The 1930's failures were caused by other things, such as lack of confidence.
 C. that they all had the same causes. Specifically, poor investments by banks and the incentives for risky investments that deposit insurance programs gave them.
 D. that the failures of the 1930's were due to poor investments by banks and the incentives for risky investments that deposit insurance programs gave them. The 1980's failures were caused by other things, such as lack of confidence.
 E. that they were not failures at all, but just temporary setbacks.

Answers and Explanations

- 12.1 D As a medium of exchange, money makes it easier to find trading partners. As unit of account, money makes bargaining easier. As store of value, money lowers the transportation costs of trading. All of these facilitate trade and specialization.
- 12.2 E Money is anything generally used and commonly accepted as final payment. It does not have to be issued by the government, and need not be backed up by anything (ours is not). Credit may cause someone to lend you money, but the credit or debt itself is not money.
- 12.3 B Money is anything generally used and commonly accepted as final payment. It does not have to be issued by the government, and need not be backed up by anything (ours is not).
- 12.4 E All were, at certain places and times, used as money. Some still are used for that purpose in some places.
- 12.5 E Money in modern countries is “fiat money,” meaning it is not backed up by anything.
- 12.6 D Answer E is just another way of saying that money is used for payment over time.
- 12.7 E While some money has pictures of dead people, most money (such as bank account money) does not.
- 12.8 B M1 consists of cash held by the non-bank public and checkable bank account deposits. A little more than half of it is held as cash right now.
- 12.9 B M1 consists of cash held by the non-bank public and checkable bank account deposits. A little more than half of it is held as cash right now.
- 12.10 D Bonds are sold by the government as a way of borrowing money. They are not money themselves; the money used to buy them is taken and spent by the government. Currency and checking accounts are part of M1 and M2, while savings accounts are part of M2.
- 12.11 B Money in checking accounts is part of M1 (and M2).
- 12.12 E Since savings accounts and checking accounts are both in M2, M2 will not change. However, since only checking accounts are in M1, M1 will go up if savings account money is moved into checking accounts.
- 12.13 C Banks create money when they make loans and those loans are either taken out in cash or deposited in other banks.
- 12.14 D The amount of loans that a single bank can make is determined by its excess reserves. The amount of loans that the banking system can make is the excess reserves banks have, divided by the required reserve ratio.
- 12.15 C Bank reserves include cash held by banks (not the public) and reserve deposits that banks have at the Federal Reserve (and other banks acting as agents of the Federal Reserve).
- 12.16 A Bank reserves include cash held by banks (not the public) and reserve deposits of banks at the Federal Reserve (and other banks acting as agents of the Federal Reserve). Demand deposits (checking accounts) of private citizens don't count as reserves, but they determine how many dollars worth of reserves banks are required to hold.
- 12.17 D The maximum amount of loans that all banks together could make is proportional to the amount of excess reserves they have, and inversely related to the required reserve ratio.
- 12.18 E Since the amount of (loan) deposits that banks can make is inversely proportional to the required reserve ratio, the inverse of the ratio is the “multiplier” showing the maximum amount of deposits banks could create. If the ratio is .1, the deposit multiplier is $1 \div (.1) = 10$
- 12.19 B Since the amount of (loan) deposits that banks can make is inversely proportional to the required reserve ratio, the inverse of the ratio is the “multiplier” showing the maximum amount of deposits banks could create.

- 12.20 D The amount of (actual) reserves does not change, unless there is “cash drain,” by the public increasing its holding of currency. However, as loans are made, more of the actual reserves are being used to back up deposits, so excess reserves fall.
- 12.21 A Excess reserves are the actual reserves the bank gained, minus the new required reserves it is obligated to hold. If it picked up \$5000 worth of deposits and actual reserves, and as a result now has \$4000 worth of excess reserves, the difference must be the required reserves on the gained deposits. So, $\$5000 - \$4000 = \$1000$ is the required reserves on the \$5000 deposit. $\$1000 \div \5000 must be the required reserve ratio, so it is .2 or 20%
- 12.22 C If the banks held no excess reserves, and if there was no currency leakage, the maximum deposit expansion multiplier would be $1/r$ or $1 \div (.1) = 10$. Since banks do hold excess reserves and there is currency leakage, the multiplier is smaller than the maximum. (Actually, it is 9, not 10, but you don't have to know this).
- 12.23 C The desired currency ratio is the proportion of money that people wish to hold in the form of cash (rather than as bank deposits). People will hold more money in the form of cash if there is a lower opportunity cost of doing so. Since the opportunity cost is (in part) the interest that could be earned by holding money in other forms, such as interest-earning checking accounts, as this interest falls, holding cash is less costly.
- 12.24 E A single bank can safely lend out its excess reserves. If the bank has deposits of 20,000, its required reserves will be $(.2) \times 20,000 = 4,000$. To find its excess reserves, subtract the required reserves from the actual reserves. This gives us $10,000 - 4,000 = 6,000$.
- 12.25 D While banks create money, the Federal Reserve controls the required reserve ratio and the amount of reserves banks have with which they can create money.
- 12.26 E Open Market Operations (buying and selling bonds) is the main way the Fed controls the reserves that banks have. The Fed uses its other tools, the discount rate and the required reserve ratio, much less frequently.
- 12.27 D
- 12.28 C The prime lending rate is the rate that banks charge their most creditworthy customers when making commercial loans. It is set by banks, not the Fed.
- 12.29 B When the Fed sells bonds, it takes money from the public, and takes actual reserves from banks, to pay for the purchase.
- 12.30 A If the Fed lowers the required reserve ratio, the expansion multiplier goes up, which means more money can be lent by banks, even if the amount of total reserves they have does not change.
- 12.31 C The monetary base will fall, since cash counts as part of the monetary base. If the investor pays with the bonds using cash taken out of a bank, actual reserves will also fall.
- 12.32 C The excess reserve ratio is the proportion of deposits that banks want to keep excess reserves on. That is, they keep some excess reserves even though they don't have to legally do so. If this increases, then the banks make fewer loans. Raising the required reserve ratio would also lead banks to make fewer loans. While an increase in the desired currency ratio (the proportion of money that the public wants to hold, and thus takes away from being used as bank reserves) would also reduce the money supply in itself, if the Fed buys bonds or reduces the required reserve ratio, these actions would counteract the public's behavior.
- 12.33 A When the Fed sells bonds, it reduces the actual reserves in the banking system, which leaves banks with less ability to create money by making loans.
- 12.34 D Either of these things alone would tend to increase the money supply.
- 12.35 D While borrowing from the Fed increases the actual reserves of the bank, buying the bonds from the Fed (which created reserves when it bought them) takes the reserves away from the bank. The two transactions cancel each other out, as far as bank reserves are concerned.

- 12.36 A Reducing the discount rate, the interest rate at which the Fed lends reserves to banks, will tend to increase banks' ability to borrow reserves and make loans.
- 12.37 D When the Fed sells bonds to the public, the money to pay for the bonds is taken out of the economy directly. The sale will also affect bank reserves, but that will have indirect (secondary) effects.
- 12.38 B If we assume that the excess reserve ratio is zero (so banks don't want to hold excess reserves) and that cash is not leaving the banks due to the public changing its desire for currency, the effect of reducing bank reserves will be inversely related to the required reserve ratio. $1/r$ is 10, so the total effect on the money supply will be $10 \times \$5$ million or \$50 million. When the Fed sells bonds, the money supply goes down by this amount.
- 12.39 A Reducing the required reserve ratio is one way to increase the money supply.
- 12.40 D The Fed controls the money supply largely through creating or destroying bank reserves, through open market operations.
- 12.41 B When the Fed sells bonds, it takes money out of the economy, and reduces bank reserves.
- 12.42 B When the Treasury sells bonds to the public, the public is simply lending money to the government, which the government then spends. The total amount of money does not change, but the borrowing by the government increases its debt, which is referred to as the "national debt."
- 12.43 A The borrowing by the government, through the Treasury, increases the national debt. The buying of bonds by the Fed always increases the money supply (whether the Fed buys the bonds from the public, from banks, or from the Treasury), because the Fed just creates the money it uses to buy the bonds, and also creates new bank reserves when the created money is deposited in banks.
- 12.44 C The Fed selling bonds to the public affects the money supply, but not the debt, since the bonds were already purchased by the Fed, and the debt was incurred by the government at that time. One of the points of this question is that the Treasury, not the Fed, finances the governments operations and borrows money on its behalf. Not to confuse things, but the Fed usually acts as the agent of the Treasury to run the auctions of government bonds that the Fed doesn't want to buy.
- 12.45 A When the Fed buys bonds, it creates money to buy them, and also creates reserves (in an equal quantity) when the new money works its way through the banking system.
- T12.1 C An asset is anything of value. A liquid asset is one that has purchasing power, or that can be converted into purchasing power quickly.
- T12.2 B M1 is how much people have in purchasing power assets right now.
- T12.3 E Like any other asset, the value of money is inversely related to its supply (or how much of it there is).
- T12.4 C People are not poor because they don't have money; poverty results from not having much of any valuable assets. Money is only one valuable asset. However, a person who owned a lot of property, stocks, bonds, or valuable talents and skills would not be poor, even if he or she did not keep much wealth in the form of cash or bank accounts. If more money existed, all valuable things would be worth more money, but a person who possessed no assets to exchange for money would still be poor.
- T12.5 A The system of fractional reserve banking, in which banks retain only a small reserve to back up bank deposits, works as long as bank customers do not try to withdraw more than a small portion of the total deposited in banks at any one time.

- T12.6a A Taking some of your bank account in the form of cash requires your bank to reduce its own cash holdings, which it is using as reserves, by an equal amount. The money supply does not fall, since both cash you hold and your checking account are money. Your bank's required reserves will fall by a fraction of the amount that you reduce your account by (since it is the amount in your account, times the required reserve ratio, that determines required reserves). Excess reserves of your bank will fall, but not by the whole \$100, since your bank loses \$100 in reserves, but also has less required reserves because you reduced the size of your account (so your account requires less to back it up).
- T12.6b D Taking some of your bank account in the form of cash requires your bank to reduce its own cash holdings, which it is using as reserves, by an equal amount. Excess reserves of your bank will fall, but not by the whole \$100, since your bank loses \$100 in reserves, but also has less required reserves because you reduced the size of your account (so your account requires less to back it up). The money supply does not change, since both cash you hold and your checking account are money. Your bank's required reserves will fall (since it is the amount in your account, times the required reserve ratio, that determines required reserves).
- T12.6c A The change in excess reserves is the change in actual reserves minus the change in required reserves. Excess reserves of your bank will fall, but not by the whole \$100, since your bank loses \$100 in reserves, but also has less required reserves because you reduced the size of your account (so your account requires less to back it up). For example, if the required reserve ratio is .1, your bank loses \$100 in cash reserves, but also is required to hold \$10 less in reserves to back up your account (.1 times the \$100 less in your account), so it loses \$90 in excess reserves ($-\$100 - (-\$10) = -\90). In terms of actual reserves, taking some of your bank account in the form of cash requires your bank to reduce its own cash holdings, which it is using as reserves, by an equal amount (exactly \$100).
- T12.7a A Reducing the discount rate will increase the reserves that banks have access to, although the exact increase in reserves may be difficult to predict.
- T12.7b E When the Fed sells bonds, it takes the money it gets paid out of circulation, and also reduces bank reserves by the same amount.
- T12.7c D The sale of bonds by the Treasury does not affect the money supply, since it is simply borrowing money that would have been lent to someone else any way.
- T12.8 E The supply of money is controlled by the Fed, not by government borrowing. The Fed is under no obligation to increase the money supply when the government debt increases. It may choose to do so, however. When the government increases its debt, it competes with other borrowers for funds created by bank lending and private saving. If the Fed is concerned about the effect that this may have on the interest rate, the Fed may choose to add reserves to the banking system as a result, but this is a secondary effect of the debt. Indeed, it may not happen.
- T12.9 E Since bank reserves are reduced when people take cash out of banks, the overall effect will be to reduce bank expansion by more than the initial reduced deposit.
- T12.10 A The reserve requirement affects the expansion that can be done on all reserves, and thus will change the money supply by some multiple of all the reserves already in existence. Changing reserves allows for a smaller change in the money supply. The most reliable way to change the amount of reserves is with open market operations.
- T12.11 E This is the result of the monetary multiplier ($1/r$).
- T12.12a B The purchase is paid for by money the Fed creates for the purchase.
- T12.12b C Since the purchase creates \$100,000 directly, and also increases bank reserves, more than \$100,000 in total money will eventually be created.

- T12.12c D The bank picks up reserves of \$100,000, and also is required to hold reserves of 20% of the new deposit, which is $.2 \times \$100,000 = \$20,000$. Thus, the bank gains $\$100,000 - \$20,000$ in excess reserves, or \$80,000.
- T12.12d C The banking system can create $1/r$ times the amount of increase in reserves. $1/r$ is $1 \div .2 = 5$. So, the total amount is 5 times $100,000 = \$500,000$
- T12.13a E The bank has \$50,000 in actual reserves (vault cash plus deposits at the Fed). The required reserves are 10% or .1 times its deposits, which is $.1 \times \$200,000 = \$20,000$. Excess reserves are actual reserves minus required reserves, which are $\$50,000 - \$20,000 = \$30,000$
- T12.13b C The bank can lend out an amount equal to its excess reserves, which is \$30,000
- T12.14 B The 1930's bank panics were caused by lack of confidence. In the 1980's some banks (and savings and loans) made loans that were unsafe. Since these risky loans involved the payment of high interest rates to the banks, the depositors of the risky-loan banks were promised high interest for their deposits. Thus, depositors moved their accounts (and reserves) into banks that made risky loans. This was actually encouraged by Federal deposit insurance programs (especially the Federal Savings and Loan Insurance Corporation), which charged the same premiums to all banks, regardless of the kinds of loans they made. Safe banks had problems getting depositors (since they couldn't offer high interest to depositors), and yet had to pay the same insurance premiums as unsafe banks. When the risky banks discovered that their risky loans were not being repaid, they could not afford to pay back their depositors' earned interest, so they started closing. Since the accounts were insured, the Federal deposit insurance programs had to pay off the depositors, but hadn't collected enough in deposit insurance premiums from the unsafe banks to be able to do so, so the taxpayers had to foot the bill.

Chapter 13

General Multiple-Choice Questions

- 13.1 The velocity of money is best defined as
- A. the growth rate of the money supply during a year.
 - B. the growth rate of the demand for money during a year.
 - C. the number of times each dollar of the money supply is used in purchases in a year.
 - D. the growth rate of inflation during a year.
 - E. the supply of money divided by the dollar value of nominal GDP.
- 13.2 Ceteris paribus, the velocity of money
- A. tends to fall as the public increases its holding of money.
 - B. tends to rise as the public increases its holding of money.
 - C. will be constant only if the public increases its holding of money.
 - D. will tend to rise if real interest rates fall.
 - E. will tend to fall if there is an increase in household income.
- 13.3 Ceteris paribus, the velocity of money tends to
- A. fall as the public decreases its holding of money.
 - B. rise as the interest rate rises.
 - C. fall as household incomes increase.
 - D. rise as the money supply rises.
 - E. remain constant as households hold more wealth in the form of money.
- 13.4 If, for each dollar of nominal GDP, the public holds more money, we can be pretty sure that
- A. the velocity of money has fallen.
 - B. the velocity of money has risen.
 - C. the price level has risen.
 - D. the price level has fallen.
 - E. real GDP has risen.
- 13.5 If velocity is constant and real output is not growing, a doubling of the money supply would
- A. cause an increase in the price level, but we cannot tell how much.
 - B. cause the price level to be cut in half.
 - C. cause a decrease in the price level, but we cannot tell how much.
 - D. cause the price level to double.
 - E. cause the price level to remain constant.
- 13.6 If velocity does not vary much over time, inflation will eventually occur only if
- A. the supply of money increases.
 - B. real output decreases.
 - C. the supply of money increases while real output decreases.
 - D. the supply of money increases faster than real output.
 - E. interest rates are falling.
- 13.7 If the money supply is 3.0 trillion, the price index is 1.50, and velocity is 5, what is real output?
- A. 2.5 trillion
 - B. 15 trillion
 - C. 6.5 trillion
 - D. 10.0 trillion
 - E. 0.9 trillion
- 13.8 If real output is 3.0 trillion, the price index is 1.50, and velocity is 5, what is the money supply?
- A. 2.5 trillion
 - B. 15 trillion
 - C. 6.5 trillion
 - D. 0.5 trillion
 - E. 0.9 trillion

Imagine YOU are the Chairman of the Central Bank of Loserland (kind of like being Chairman of the Fed). Exciting, eh? You have accumulated the information below on the economy. Unfortunately, a bus ran over your briefcase on the way to work, and some of the data stuck to the tires. Questions below require you to fill in the missing information.

Year	Growth in Money Supply	Growth in Velocity	Inflation	Growth in Real Output	Nominal Interest Rate	Real Interest Rate
1996	_____	1.0%	1.0%	3.0%	3.0%	_____
1997	10.0%	_____	3.0%	5.0%	_____	4.0%
1998	14.0%	-1.0%	8.0%	_____	11.0%	_____
1999	11.0%	2.0%	_____	2.0%	_____	3.5%
2000	11.0%	3.0%	13.0%	_____	_____	5.5%
2001	_____	-1.0%	9.0%	0.0%	14.0%	_____

- 13.9 Based on the table above, what was the approximate growth rate in the money supply in 1996?
A. 0.0% B. 1.0% C. 2.0% D. 3.0% E. 4.0%
- 13.10 Based on the table above, what was the approximate real interest rate in 1996?
A. 0.0% B. 1.0% C. 2.0% D. 3.0% E. 4.0%
- 13.11 Based on the table above, what was the approximate growth in velocity in 1997?
A. 0.0% B. 1.0% C. 2.0% D. -1.0% E. -2.0%
- 13.12 Based on the table above, what was the approximate nominal interest rate in 1997?
A. 7.0% B. 4.0% C. 3.0% D. 12.0% E. 1.0%
- 13.13 Based on the table above, what was the approximate growth rate in real output in 1998?
A. 13.0% B. 7.0% C. 3.0% D. 5.0% E. 6.0%
- 13.14 Based on the table above, what was the approximate real interest rate in 1998?
A. 19.0% B. 3.0% C. 11.0% D. 8.0% E. 7.0%
- 13.15 Based on the table above, what was the approximate inflation rate in 1999?
A. 4.5% B. 7.5% C. 9.0% D. 10.0% E. 11.0%
- 13.16 Based on the table above, what was the approximate nominal interest rate in 1999?
A. 5.5% B. 7.5% C. 14.5% D. 12.5% E. 1.5%
- 13.17 Based on the table above, what was the approximate growth rate in real output in 2000?
A. 13.0% B. 1.0% C. 11.0% D. 8.0% E. 2.0%
- 13.18 Based on the table above, what was the approximate nominal interest rate in 2000?
A. 13.0% B. 7.5% C. 18.5% D. 11.0% E. 2.0%
- 13.19 Based on the table above, what was the approximate growth in the money supply in 2001?
A. 13.0% B. 8.0% C. 9.0% D. 10.0% E. 11.0%
- 13.20 Based on the table above, what was the approximate real interest rate in 2001?
A. 9.0% B. 23.0% C. 4.0% D. 13.0% E. 5.0%

- 13.21 Which of the following will always be true (if M is the money supply, V is velocity, P is the price level, Y is real output)?
A. $M + V = P + Y$
B. $M + P = V + Y$
C. $M \times V = P \times Y$
D. $P \times Y = \text{real GDP}$
E. none of the above is always true
- 13.22 Suppose that this year, nominal GDP is \$9.0 trillion and that the money supply is \$4.0 trillion. What is the approximate value of the velocity of money?
A. 5.00
B. 0.44
C. 1.25
D. 0.55
E. 2.25
- 13.23 If M is growing at 11% per year, V is falling by 3% per year, and real output (Q) is growing by 3% per year, what is the approximate inflation rate?
A. 11%
B. 99%
C. 5%
D. 14%
E. none of these
- 13.24 If the growth rate of the money supply is 10% per year, velocity does not change (so its growth rate is 0%), and the growth of real output is about 4% per year, what is inflation?
A. 0%
B. 6%
C. 14%
D. 10%
E. 2.5%
- 13.25 A "tight" or restrictive monetary policy is when
A. the Fed reduces the discount rate.
B. the Fed increases the money supply or its growth rate.
C. the Fed reduces the money supply or its growth rate.
D. the Fed attempts to reduce interest rates, short term.
E. the Fed buys bonds on the open market.
- 13.26 A "loose" or expansionary monetary policy is
A. the same as an expansionary fiscal policy.
B. the same as a restrictive fiscal policy.
C. when the Fed attempts to reduce the money supply or its growth rate.
D. when the Fed attempts to increase the real interest rate.
E. when the Fed attempts to increase the money supply or its growth rate.
- 13.27 If the economy starts at long-run equilibrium, an unanticipated monetary expansion will
A. increase employment and real output in both the short run and the long run.
B. reduce employment and real output in the short run, but increase them in the long run.
C. increase employment and real output in the short run, but leave them unchanged in the long run.
D. reduce employment and real output in both the short run and the long run.
E. leave employment and real output unaffected in the short run, but increase them in the long run.
- 13.28 Nobody likes high interest rates. One governmental official says that the government can keep interest rates down by putting lots of money into circulation. What do you think of this idea?
A. It will work. More money in circulation will immediately lead to lower interest rates.
B. It won't work. More money in circulation will have the immediate effect of raising interest rates.
C. It won't work. Money has no effect on interest rates.
D. It won't work. More money in circulation will lower interest rates for a short time, but the inflation caused by the additional money will eventually increase interest rates.
E. It will work (in the long run). More money in circulation will raise interest rates for a short time, but will decrease interest rates eventually.

- 13.29 In the short run, an unanticipated increase in the growth rate of the money supply will
- A. reduce real interest rates, causing the value of assets to fall. This will thus reduce wealth of consumers and decrease aggregate demand.
 - B. increase the value of the currency on foreign exchange markets. This will increase net exports and cause aggregate demand to increase.
 - C. decrease the wealth of consumers. This will increase aggregate demand.
 - D. increase the government deficit. This will increase aggregate demand.
 - E. decrease real interest rates, increasing borrowing. This will increase aggregate demand.
- 13.30 In the short run, an unanticipated increase in the growth of the money supply will
- A. reduce real interest rates, causing the value of assets to rise. This will increase the wealth of consumers and thus increase aggregate demand.
 - B. reduce the value of the currency in foreign exchange markets. This will decrease the apparent prices of domestic goods and increase aggregate demand.
 - C. reduce real interest rates, increasing the attractiveness of borrowing. This will increase aggregate demand.
 - D. all of the above.
 - E. none of the above.
- 13.31 An unanticipated expansionary monetary policy is most likely to
- A. increase real output and employment in the short run, but increase only the price level in the long run.
 - B. decrease real output and employment in the short run, but only increase the price level in the long run.
 - C. increase real output and employment in the short run, but only decrease the price level in the long run.
 - D. decrease real output in and employment in the short run, but decrease only the price level in the long run.
 - E. increase real output and employment in the short run, and also increase them in the long run.
- 13.32 An unanticipated restrictive monetary policy is most likely to
- A. increase real output and employment in the short run, but increase only the price level in the long run.
 - B. decrease real output and employment in the short run, but only increase the price level in the long run.
 - C. increase real output and employment in the short run, but only decrease the price level in the long run.
 - D. decrease real output in and employment in the short run, but decrease only the price level in the long run.
 - E. decrease real output and employment in the short run, but increase them in the long run.
- 13.33 If the Fed unexpectedly increases the money supply, which is most likely in the short run?
- A. employment will fall.
 - B. real interest rates will fall.
 - C. inflation will fall.
 - D. real output will fall.
 - E. unemployment will rise.
- 13.34 If the Fed unexpectedly increases the money supply, which is most likely in the short run?
- A. employment will fall.
 - B. real interest rates will rise
 - C. inflation will fall.
 - D. real output will fall.
 - E. unemployment will fall.
- 13.35 If the Fed unexpectedly increases the money supply, which is most likely in the short run?
- A. employment will fall.
 - B. real interest rates will rise.
 - C. inflation will fall.
 - D. real output will rise.
 - E. unemployment will rise.

- 13.36 If the Fed unexpectedly increases the money supply, which is most likely in the short run?
A. employment will rise. B. real interest rates will rise. C. inflation will fall
D. real output will fall. E. unemployment will rise.
- 13.37 If the Fed unexpectedly decreases the money supply, is most likely in the short run?
A. employment will fall. B. real interest rates will fall. C. inflation will rise.
D. real output will rise. E. unemployment will fall.
- 13.38 If the Fed unexpectedly decreases the money supply, which is most likely in the short run?
A. employment will rise. B. real interest rates will rise. C. inflation will rise.
D. real output will rise. E. unemployment will fall.
- 13.39 If the Fed unexpectedly decreases the money supply, which is most likely in the short run?
A. employment will rise. B. real interest rates will fall. C. inflation will rise.
D. real output will rise. E. unemployment will rise.
- 13.40 If the Fed unexpectedly decreases the money supply, which is most likely in the short run?
A. employment will rise. B. real interest rates will fall. C. inflation will rise.
D. real output will fall. E. unemployment will fall.
- 13.41 If the Fed unexpectedly decreases the money supply, which is most likely in the long run (compared to the initial situation)?
A. employment will fall. B. real interest rates will rise. C. inflation will fall.
D. real output will fall. E. unemployment will rise.
- 13.42 If the Fed unexpectedly increases the money supply, which is most likely in the long run (compared to the initial situation)?
A. employment will rise. B. real interest rates will fall. C. inflation will rise.
D. real output will rise. E. unemployment will fall.
- 13.43 If the Fed unexpectedly increases the money supply, which of the following is most likely?
A. Unemployment will rise in the short run and in the long run (compared to the initial level).
B. Unemployment will fall in the short run, but not in the long run (compared to the initial level).
C. Unemployment will rise in the short run, but not in the long run (compared to the initial level).
D. Unemployment will fall in the short run and in the long run (compared to the initial level).
E. Unemployment will fall in the short run, but rise in the long run (compared to the initial level).
- 13.44 If the Fed unexpectedly decreases the money supply, which of the following is most likely?
A. Unemployment will rise in the short run and in the long run (compared to the initial level).
B. Unemployment will fall in the short run, but not in the long run (compared to the initial level).
C. Unemployment will rise in the short run, but not in the long run (compared to the initial level).
D. Unemployment will fall in the short run and in the long run (compared to the initial level).
E. Unemployment will fall in the short run, but rise in the long run (compared to the initial level).
- 13.45 If the Fed unexpectedly increases the money supply, which of the following is most likely?
A. The price level will rise a little in the short run and rise even more in the long run (compared to the initial level).
B. The price level will fall in the short run, but not in the long run (compared to the initial level).
C. The price level will rise in the short run, but not in the long run (compared to the initial level).
D. The price level will fall a little in the short run and fall even more in the long run (compared to the initial level).
E. The price level will fall in the short run, but rise in the long run (compared to the initial level).

- 13.46 If the Fed unexpectedly decreases the money supply, which of the following is most likely?
- A. The price level will rise a little in the short run and rise even more in the long run (compared to the initial level).
 - B. The price level will fall in the short run, but not in the long run (compared to the initial level).
 - C. The price level will rise in the short run, but not in the long run (compared to the initial level).
 - D. The price level will fall a little in the short run and fall even more in the long run (compared to the initial level).
 - E. The price level will fall in the short run, but rise in the long run (compared to the initial level).
- 13.47 If the Fed unexpectedly increases the money supply, which of the following is most likely?
- A. Real interest rates will rise in the short run and in the long run (compared to the initial level).
 - B. Real interest rates will fall in the short run, but not in the long run (compared to the initial level).
 - C. Real interest rates will rise in the short run, but not in the long run (compared to the initial level).
 - D. Real interest rates will fall in the short run and in the long run (compared to the initial level).
 - E. Real interest rates will fall in the short run, but rise in the long run (compared to the initial level).
- 13.48 If the Fed unexpectedly decreases the money supply, which of the following is most likely?
- A. Real interest rates will rise in the short run and in the long run (compared to the initial level).
 - B. Real interest rates will fall in the short run, but not in the long run (compared to the initial level).
 - C. Real interest rates will rise in the short run, but not in the long run (compared to the initial level).
 - D. Real interest rates will fall in the short run and in the long run (compared to the initial level).
 - E. Real interest rates will fall in the short run, but rise in the long run (compared to the initial level).
- 13.49 When the effects of a monetary policy are “fully anticipated,” it means that
- A. decision-makers only revise their inflationary expectations after the inflation impacts of the policy are seen in the actual price level.
 - B. the policy has no effects.
 - C. the policy will affect output and employment, but nothing else.
 - D. the policy itself is expected, so when it is announced, no one is surprised.
 - E. decision-makers incorporate the effects that the policy will have on inflation into their decisions and expectations.
- 13.50 If the Fed initiates an expansionary or restrictive monetary policy, and if the policy is fully anticipated, the short run effects of the policy will be
- A. much more dramatic than if the policy is not anticipated.
 - B. much less dramatic than if the policy is not anticipated.
 - C. identical to the long run effects.
 - D. impossible to predict.
 - E. completely eliminated.
- 13.51 Suppose the unemployment rate was 8% and the price level has been falling at a rate of 2% per year, which of the following would probably be pursued by the Fed if it is concerned about unemployment as well as inflation?
- A. An increase in the discount rate.
 - B. Purchases of bonds by the Fed.
 - C. Increasing required reserve ratio.
 - D. Sale of bonds by the Fed.
 - E. Decreasing the prime lending rate.

Country (Year)	Money Supply	GDP Deflator (1997=100)	Nominal GDP	Real GDP (1997 base year)	Rate of Change in M	Rate of Change in Prices
NAUSEA						
1996	2500	97.0	3880			
2000	3125	116.4	5005			
PARANOIA						
1996	1300	70.0	3500			
2000	5200	280.0	14000			
MANIA						
1996	18	40.0	76			
2000	5418	16040.0	15238			

- 13.52 Real GDP for Mania in 1996 (in 1997 currency) is closest to
 A. 76 B. 42 C. 190 D. 30.4 E. 136.8
- 13.53 Real GDP for Mania in 2000 (in 1997 currency) is closest to
 A. 95 B. 16040 C. 869047 D. 105 E. 296
- 13.54 Real GDP for Nausea in 1996 (in 1997 currency) is closest to
 A. 3880 B. 4000 C. 3763.6 D. 1552 E. 9700
- 13.55 Real GDP for Nausea in 2000 (in 1997 currency) is closest to
 A. 5005 B. 3920 C. 4300 D. 1376 E. 1343.75
- 13.56 Real GDP for Paranoia in 1996 (in 1997 currency) is closest to
 A. 5000 B. 2450 C. 3500 D. 4550 E. 2692.3
- 13.57 Real GDP for Paranoia in 2000 (in 1997 currency) is closest to
 A. 5000 B. 2450 C. 3500 D. 7280 E. 2692.3
- 13.58 Which country had the highest inflation between 1996 and 2000?
 A. Paranoia B. Mania C. Nausea D. we can't tell
 E. Paranoia and Mania had about the same inflation
- 13.59 Which country had the lowest inflation between 1996 and 2000?
 A. Paranoia B. Mania C. Nausea D. we can't tell
 E. Paranoia and Mania had about the same inflation
- 13.60 Which country had the most expansionary monetary policy between 1996 and 2000?
 A. Paranoia B. Mania C. Nausea D. we can't tell
 E. Paranoia and Mania had about the same expansion
- 13.61 Which country had the least expansionary monetary policy between 1996 and 2000?
 A. Paranoia B. Mania C. Nausea D. we can't tell
 E. Paranoia and Mania had about the same expansion
- 13.62 Which country had the most rapid increase in real output between 1996 and 2000?
 A. Paranoia B. Mania C. Nausea D. we can't tell
 E. Paranoia and Mania had about the same expansion
- 13.63 Between 1996 and 2000, how much did prices rise in Paranoia?
 A. about 300% B. about 400% C. about 100% D. about 210% E. we can't tell

- 13.64 Between 1996 and 2000, how much did prices rise in Nausea?
A. about 19.4% B. about 25% C. about 16.7% D. about 12.9% E. about 20%
- 13.65 Between 1996 and 2000, how much did prices rise in Mania?
A. about 30,000% B. about 16,000% C. about 99.7% D. about 40,000% E. we can't tell
- 13.66 Analysis of the Great Depression indicates that
A. Even though monetary and fiscal policies were expansionary, they were unable to prevent the economic disaster.
B. Even though monetary policy was expansionary, restrictive fiscal policy dominated during the early 1930's.
C. Reductions in tax rates were mostly responsible for creating the economic disaster.
D. Highly restrictive monetary policy, coupled with tax increases, were mostly responsible for the economic disaster.
E. Monetary explanations are insufficient to explain the Depression, and consideration of fiscal policy in combination with monetary policy also yields no insights into the causes of this economic disaster.
- 13.67 Which of the following is not considered by economists to be a major cause of the creation, severity, and duration of the Great Depression (1930-1940)?
A. Tariff increases that reduced international trade beginning in 1930.
B. A large tax increase in 1932.
C. The stock market crash of 1929.
D. Fed actions in the early 1930's that reduced the money supply.
E. Monetary policies that slowed money growth in 1937, and then reduced the money supply in 1938.
- 13.68 Two of the biggest stock market crashes in history occurred in 1929 and 1987. Both were preceded by news that the monetary authorities planned actions to drastically reduce the money supply or its growth. In both cases, the stock market lost one-third of its value. Which of the following is true?
A. Following both crashes, there was a huge depression, with unemployment of almost 25% (over 30% in some parts of the country).
B. Following both crashes, there was a drastic reduction in the money supply, with massive bank panics and failures.
C. Following both crashes, real GDP declined by over 30% in the next four years.
D. Following the 1929 crash, monetary authorities did act to reduce the money supply, while following the 1987 crash, the Fed maintained slow growth in the money supply.
E. Following the 1929 crash, the Fed enacted an expansionary monetary policy, but fiscal policy was restrictive. Following the 1987 crash, the Fed again enacted an expansionary monetary policy, but fiscal policy was also expansionary.
- 13.69 According to your book (and class discussions), all of the following contributed to the severity of the Great Depression except...
A. The reduction of the money supply in the 1930's.
B. The sale of bonds by the Fed, accompanied later by rises in the reserve requirements.
C. Tax increases in the early 30's in an effort to balance the budget.
D. Tariff (import tax) increases in 1930, to protect domestic producers from competition.
E. Farm price supports, which made food more expensive, and thus made it harder for consumers to eat.

- 13.70 Monetarists are
- A. any people who use money.
 - B. economists who believe monetary policy has strong effects on real output in the short run and inflation in the long run.
 - C. economists who believe that monetary policy has no effect on output in the short run, but will affect output in the long run.
 - D. economists who believe that monetary policy has no effect on output in the short run, but will affect prices in the long run.
 - E. economists who believe that monetary policy has no effect on the economy at all.
- 13.71 According to the Monetarists, a steady (and expected) growth in the money supply would
- A. cause more uncertainty regarding the inflation rate.
 - B. reduce an important element of uncertainty and make monetary arrangements involving future payments more efficient.
 - C. cause the interest rate to remain unchanged, since inflation would be less important than it now is.
 - D. prevent the attaining of a full-employment equilibrium without inflation.
 - E. cause the business cycle to swing more wildly than it now does.
- 13.72 A proponent of activist strategy is someone who believes that
- A. changes in fiscal and monetary policy can be successfully used to stabilize the economy.
 - B. neither fiscal nor monetary policy will have effects on the economy.
 - C. changes in fiscal and monetary policy are more likely to destabilize the economy than to produce stability.
 - D. fiscal policy will be effective in stabilizing the economy, but monetary policy will tend to be destabilizing.
 - E. fiscal policy will not be effective in stabilizing the economy, but monetary policy can be effectively used to stabilize the economy.
- 13.73 A proponent of nonactivist strategy is someone who believes that
- A. changes in fiscal and monetary policy can be successfully used to stabilize the economy.
 - B. neither fiscal nor monetary policy will have effects on the economy.
 - C. changes in fiscal and monetary policy are more likely to destabilize the economy than to produce stability.
 - D. fiscal policy will be effective in stabilizing the economy, but monetary policy will tend to be destabilizing.
 - E. fiscal policy will not be effective in stabilizing the economy, but monetary policy can be effectively used to stabilize the economy.
- 13.74 Which of the following is a major area of disagreement between activists and non-activists?
- A. Activists believe that monetary policy is less important than fiscal policy. Non-activists disagree.
 - B. Activists believe monetary policy is more potent than fiscal policy. Non-activists disagree.
 - C. Activists believe that changes in fiscal and monetary policy have their effects instantaneously. Non-activists believe that policy has lagged effects.
 - D. Activists believe that macroeconomic policy can lead to greater economic stability than would result from inflexible rules. Non-activists disagree.
 - E. Activists think that macroeconomic policy is sometimes motivated by politics. Non-activists disagree.

- 13.75 Monetarists believe that the economy will be more stable if policy makers settle down to increasing the money supply by some steady rate (usually 3 to 5% per year). Such a rule might qualify the Monetarists as
- | | | |
|-------------|--------------------------|----------------|
| A. activist | B. Keynesian | C. nonactivist |
| D. pacifist | E. rational expectations | |

Multiple-Choice Based on Textbook's End-of-Chapter Questions

- T13.1a. Which of the following will increase the quantity of M1 money people want to hold, *ceteris paribus*?
- A. An increase in the interest rate on checking deposits
 - B. An increase in the expected rate of inflation
 - C. A decrease in income
 - D. An increase in the differential interest rate between money market mutual funds and checking deposits
 - E. A decrease in bond prices
- T13.1b. Which of the following will increase the quantity of M1 money people want to hold, *ceteris paribus*?
- A. A decrease in the interest rate on checking deposits
 - B. An increase in the expected rate of inflation
 - C. An increase in income
 - D. An increase in the differential interest rate between money market mutual funds and checking deposits
 - E. A decrease in bond prices
- T13.1c. Which of the following will increase the quantity of M1 money people want to hold, *ceteris paribus*?
- A. A decrease in the interest rate on checking deposits
 - B. A decrease in the expected rate of inflation
 - C. A decrease in income
 - D. An increase in the differential interest rate between money market mutual funds and checking deposits
 - E. A decrease in bond prices
- T13.2. Why does expansionary monetary policy often produce increases in real output, at least in the short run?
- A. Real output is measured in term of money, so the more money there is, the higher will be real output.
 - B. Expansionary monetary policy is always accompanied by expansionary fiscal policy. This raises aggregate demand, and thus increases real output.
 - C. In the short run, expansionary monetary policy increases the real interest rate, which stimulates investment and increases real output.
 - D. In the short run, expansionary monetary policy reduces real interest rates, which increases aggregate demand and real output.
 - E. In the short run, expansionary monetary policy increases the amount of money that people want to have. This will give them the incentive to earn more money, thus increasing output.
- T13.3a. How will an unanticipated increase in the money supply affect the real interest rate, real output, and employment in the short run?
- A. The real interest rate, output, and employment will not change in the short run.
 - B. The real interest rate, output, and employment will all rise in the short run.
 - C. The real interest rate will fall, while output and employment will rise in the short run.
 - D. The real interest rate will rise, while output and employment will fall in the short run.
 - E. The real interest rate, output, and employment will all fall in the short run.

- T13.3b How will an increase in the money supply affect the real interest rate, real output, and employment in the short run, if the effects of the money supply increase are anticipated?
- A. The real interest rate, output, and employment will not change in the short run.
 - B. The real interest rate, output, and employment will all rise in the short run.
 - C. The real interest rate will fall, while output and employment will rise in the short run.
 - D. The real interest rate will rise, while output and employment will fall in the short run.
 - E. The real interest rate, output, and employment will all fall in the short run.
- T13.4a If the Fed begins a more restrictive or tight monetary policy, it will usually sell bonds in the open market. Which of the following is likely to increase (in the short run)?
- A. The reserves available to banks
 - B. Household spending on consumer durables
 - C. The exchange rate value of the dollar
 - D. Net exports
 - E. The prices of stocks and real assets like apartment or office buildings
- T13.4b If the Fed begins a more restrictive or tight monetary policy, it will usually sell bonds in the open market. Which of the following is likely to increase (in the short run)?
- A. The reserves available to banks
 - B. Real interest rates
 - C. Household spending on consumer durables
 - D. The prices of stocks and real assets like apartment or office buildings
 - E. Real GDP
- T13.4c If the Fed begins a more restrictive or tight monetary policy, it will usually sell bonds in the open market. Which of the following is likely to increase (in the short run)?
- A. The reserves available to banks
 - B. Household spending on consumer durables
 - C. The prices of stocks and real assets like apartment or office buildings
 - D. Real GDP
 - E. The unemployment rate
- T13.5 Suppose the President pressures the Fed to expand the money supply more rapidly so that interest rates can be reduced. What is the likely effect, assuming the expansion is not anticipated?
- A. Interest rates will fall in the short run, but will rise eventually (in the long run) as inflation increases.
 - B. Interest rates will rise in the short run, but will fall eventually (in the long run).
 - C. Interest rates will fall in the short run, and will remain low in the long run.
 - D. Interest rates will rise in the short run, and will remain high in the long run.
 - E. Interest rates will fall in the short run, but will either rise or fall in the long run, depending on the demand for money.
- T13.6 Countries in which the money supply growth is rapid tend to have higher interest rates than other countries. Why is this so?
- A. Higher interest rates mean that money is changing hands more rapidly, so the money supply must increase.
 - B. Higher growth rates in the money supply tend to increase inflation, which then tends to lead to higher interest rates.
 - C. The short run effect of increasing the money supply will usually be an increase in real interest rates.
 - D. Higher rates of money supply growth reduce real interest rates. Real interest rates are inversely related to nominal interest rates.
 - E. Money supply growth is determined by the interest rate in most countries. Higher interest rates encourage more lending by banks, and bank lending increases the money supply.

- T13.7 Suppose there are long and somewhat unpredictable time lags between a change in monetary policy and the policy's impact on output, employment, and prices. How will such lags affect the usefulness of monetary policy as a method of stabilizing the ups and downs in the economy?
- A. The lags will increase the usefulness of monetary policy, since the lag will give policy makers more time to consider their actions.
 - B. The lags will increase the usefulness of monetary policy, since it increases the chance that the effects will be anticipated.
 - C. The lags will make monetary policy more effective as a countercyclical tool, since the time lags will act to help smooth out the swings in the economy.
 - D. The lags will make monetary policy less effective as a countercyclical tool, since the economic swings the policy attempts to remedy may have started to correct themselves by the time the policy has its effect.
 - E. The lags will make monetary policy less effective, since it increases the chance that the effects will be anticipated.
- T13.8 Why do periods of high interest rates and periods of high inflation often occur together?
- A. When interest rates are high, so is aggregate demand. High aggregate demand leads to higher inflation.
 - B. When inflation is high, it tends to cause high nominal interest rates.
 - C. When interest rates are high, other prices go up to keep up with the higher interest rates, and this causes inflation.
 - D. When interest rates are high, banks tend to increase their lending. This leads to increased spending and, eventually, inflation.
 - E. We don't understand the exact mechanism by which high interest rates cause inflation, but they do.
- T13.9a The view that current expectations of decision-makers (including consumers) about the future are based on actual outcomes observed during the recent past is called the
- A. rational expectations hypothesis.
 - B. adaptive expectations hypothesis.
 - C. experiential expectations hypothesis.
 - D. Phillips curve hypothesis.
 - E. permanent income hypothesis.
- T13.9b The view that current expectations of decision-makers (including consumers) about the future are based on all available information, including policy changes that will affect inflation and employment is called the
- A. rational expectations hypothesis.
 - B. adaptive expectations hypothesis.
 - C. experiential expectations hypothesis.
 - D. Phillips curve hypothesis.
 - E. permanent income hypothesis.
- T13.9c The view that allows for macroeconomic policy to have real effects on output and employment in the short run, since not all of its effects will be anticipated by decision makers, is the
- A. rational expectations hypothesis.
 - B. adaptive expectations hypothesis.
 - C. experiential expectations hypothesis.
 - D. new classical view of economics.
 - E. fully anticipated hypothesis.

- T13.10a Why do many nonactivists favor a monetary rule, such as expansion of the money supply at a constant annual rate?
- A. They believe that such a rule would result in greater stability than frequent changes in the money supply.
 - B. They believe that such a rule would eliminate unemployment.
 - C. They believe that such a rule would stimulate the economy and increase aggregate demand.
 - D. They believe that such a rule would increase aggregate supply both in the short run and in the long run.
 - E. They believe that such a rule will result in lower real interest rates in the short run.
- T13.10b What is a major practical problem with a monetary rule (such as requiring a 3% to 5% growth in the money supply)?
- A. The economy frequently grows at a much faster rate, due to technological change. A steady growth in the money supply will not be sufficient to accommodate this growth.
 - B. Without inflation, the decision makers in the economy will not be able to make long-term contracts.
 - C. Without the ups and downs in the economy that activist policy creates, decision makers will have a hard time making decisions.
 - D. Monetary authorities lack the tools to grow the money supply at anything like a predictable rate.
 - E. The nature of money changes over time, so some of the stability that such a policy is meant to generate may be reduced.
- T13.11 During the Great Depression, what happened to the economy's self-correcting mechanism?
- A. It functioned perfectly; the Depression ended quickly.
 - B. It was counteracted by fiscal and monetary policy.
 - C. It failed to operate at all, as resource and goods prices did not change at all.
 - D. It acted in reverse; prices rose for resources and goods.
 - E. It did not operate, since it only operates when fiscal policy causes changes in aggregate demand.

Answers and Explanations

- 13.1 C
- 13.2 A If the public chooses to hold more wealth as money, the money is not being spent on purchases. Since it is not changing hands in purchases, velocity of each dollar is lower.
- 13.3 B Each dollar changes hands more times in trades when interest rates are higher because the opportunity of holding on to money (rather than buying some asset that pays interest) is high. So people will only tend to convert other assets into money when they want to make trades. Thus, each dollar that does exist as money will be used frequently.
- 13.4 A If the public is holding money (rather than spending it) then velocity has fallen. You can also just apply the formula $M \times V = GDP$. If GDP does not change, but M goes up, then V must have gotten smaller.
- 13.5 D Since $M \times V = P \times Y$, if V (velocity) and Y (real GDP) are not changing, a doubling of M means that P (the price level) must be doubling as well. In terms of growth rates, the growth of M plus the growth of V must equal the growth of the price index plus the growth of real GDP. If the growth of V is 0 and the growth of real GDP is 0, then the growth of M must equal the growth of the price index.
- 13.6 D In terms of growth rates, the growth of M plus the growth of V must equal the growth of the price index plus the growth of real GDP. If the growth of V is 0, then the growth of M must equal the growth of the price index plus the growth of real GDP. The price index will grow only if the growth of M is greater than the growth of real GDP.
- 13.7 D Notice that here, the price index is being given as a ratio (relative to the base year). The formula that applies is $M \times V = P \times Y$, since we are dealing with numerical values rather than growth rates.
 $3.0 \text{ trillion} \times 5 = 1.5 \times Y$. Solving for Y gives $15 \text{ trillion} \div 1.5 = Y = 10 \text{ trillion}$
- 13.8 E Notice that here, the price index is being given as a ratio (relative to the base year). The formula that applies is $M \times V = P \times Y$, since we are dealing with numerical values rather than growth rates.
 $M \times 5 = 1.5 \times 3 \text{ trillion}$. Solving for M gives $4.5 \text{ trillion} \div 5 = M = 0.9 \text{ trillion}$
- 13.9 D For this question, the formula that applies is the growth rate formula, which is $\% \Delta M + \% \Delta V = \% \Delta P + \% \Delta Y$. Filling in what we know from the table gives
 $\% \Delta M + 1\% = 1\% + 3\%$, so $\% \Delta M = 4\% - 1\% = 3\%$
- 13.10 C For this question, the formula that applies is the interest rate formula, which says that the nominal rate equals the real interest rate plus inflation. Filling in what we know gives
 $3\% = \text{real interest rate} + 1\%$. The real interest rate must be $3\% - 1\% = 2\%$
- 13.11 E For this question, the formula that applies is the growth rate formula, which is $\% \Delta M + \% \Delta V = \% \Delta P + \% \Delta Y$. Filling in what we know from the table gives
 $10\% + \% \Delta V = 3\% + 5\%$, so $\% \Delta V = 8\% - 10\% = -2\%$
- 13.12 A For this question, the formula that applies is the interest rate formula, which says that the nominal rate equals the real interest rate plus inflation. Filling in what we know gives
Nominal interest rate $= 4\% + 3\%$. The nominal interest rate must be $4\% + 3\% = 7\%$
- 13.13 D For this question, the formula that applies is the growth rate formula, which is $\% \Delta M + \% \Delta V = \% \Delta P + \% \Delta Y$. Filling in what we know from the table gives
 $14\% + (-1\%) = 8\% + \% \Delta Y$, so $\% \Delta Y = 13\% - 8\% = 5\%$
- 13.14 B For this question, the formula that applies is the interest rate formula, which says that the nominal rate equals the real interest rate plus inflation. Filling in what we know gives
 $11\% = \text{real interest rate} + 8\%$. The real interest rate must be $11\% - 8\% = 3\%$

- 13.15 E For this question, the formula that applies is the growth rate formula, which is $\% \Delta M + \% \Delta V = \% \Delta P + \% \Delta Y$. Filling in what we know from the table gives $11\% + 2\% = \% \Delta P + 2\%$, so $\% \Delta P = 13\% - 2\% = 11\%$
- 13.16 C For this question, the formula that applies is the interest rate formula, which says that the nominal rate equals the real interest rate plus inflation. Filling in what we know (from 13.15 and the table) gives
Nominal interest rate $= 3.5\% + 11\%$. The nominal interest rate must be $3.5\% + 11\% = 14.5\%$
- 13.17 B For this question, the formula that applies is the growth rate formula, which is $\% \Delta M + \% \Delta V = \% \Delta P + \% \Delta Y$. Filling in what we know from the table gives $11\% + 3\% = 13\% + \% \Delta Y$, so $\% \Delta Y = 14\% - 13\% = 1\%$
- 13.18 C For this question, the formula that applies is the interest rate formula, which says that the nominal rate equals the real interest rate plus inflation. Filling in what we know (from the table) gives
Nominal interest rate $= 5.5\% + 13\%$. The nominal interest rate must be $5.5\% + 13\% = 18.5\%$
- 13.19 D For this question, the formula that applies is the growth rate formula, which is $\% \Delta M + \% \Delta V = \% \Delta P + \% \Delta Y$. Filling in what we know from the table gives $\% \Delta M + (-1\%) = 9\% + 0\%$, so $\% \Delta M = 9\% - (-1\%) = 10\%$
- 13.20 E For this question, the formula that applies is the interest rate formula, which says that the nominal rate equals the real interest rate plus inflation. Filling in what we know gives $14\% = \text{real interest rate} + 9\%$. The real interest rate must be $14\% - 9\% = 5\%$
- 13.21 C This is the "equation of exchange" or the "quantity equation of money"
- 13.22 E While the price level and real GDP are not given here, remember that the nominal GDP is the money supply times velocity. This means that velocity is equal to nominal GDP divided by money supply. Thus, velocity is $9 \text{ tril.} \div 4 \text{ tril.} = 2.25$
- 13.23 C For this question, the formula that applies is the growth rate formula, which is $\% \Delta M + \% \Delta V = \% \Delta P + \% \Delta Y$. Filling in what we know from the table gives $11\% + (-3\%) = \% \Delta P + 3\%$, so $\% \Delta P = 8\% - 3\% = 5\%$
- 13.24 B For this question, the formula that applies is the growth rate formula, which is $\% \Delta M + \% \Delta V = \% \Delta P + \% \Delta Y$. Filling in what we know from the table gives $10\% + 0\% = \% \Delta P + 4\%$, so $\% \Delta P = 10\% - 4\% = 6\%$
- 13.25 C This is used to control inflation.
- 13.26 E This is to prevent or cure recession.
- 13.27 C In the short run, increasing aggregate demand will raise real GDP, but in the long run, all that will increase is the price level.
- 13.28 D Increasing the supply of money will lower real interest rates in the short run, but as the increased supply of money increases aggregate demand, it will increase the price level. Higher inflation and inflationary expectations will raise the nominal interest rate, and also increase even the real interest rate (as higher product prices drive up the demand for loanable funds).
- 13.29 E A higher growth rate in the money supply would tend to reduce real interest rates. This would cause value of assets to rise, not fall, so A is incorrect. The higher growth rate of the money supply would cause the value of the currency to fall, not rise, so B is incorrect. Higher growth rates in the money supply tend to reduce the value of wealth held as money (since the money will lose purchasing power relative to other assets), so C is incorrect. The growth in the money supply does not change the deficit in itself, so D is incorrect. However, the higher growth rate will reduce interest rates, and increase aggregate demand, at least in the short run.

- 13.30 D A higher growth rate in the money supply would tend to reduce real interest rates. This would cause value of assets to rise. The higher growth rate of the money supply would cause the value of the currency to fall, since there are more dollars relative to other currencies. This will encourage purchases by foreign consumers. The higher growth rate and lower interest rates will also increase aggregate demand because it will be easier to borrow, at least in the short run.
- 13.31 A In the short run, increasing aggregate demand, by reducing real interest rates, will raise real GDP, but in the long run, all that will increase is the price level.
- 13.32 D In the short run, decreasing aggregate demand, by increasing real interest rates, will reduce real GDP, but in the long run, all that will decrease is the price level.
- 13.33 B The short run effect of an unanticipated monetary expansion is reduction in the real interest rates. This will increase aggregate demand. This will increase real GDP, increasing employment, and reducing unemployment.
- 13.34 E The short run effect of an unanticipated monetary expansion is reduction in the real interest rates. This will increase aggregate demand. This will increase real GDP, increasing employment, and reducing unemployment.
- 13.35 D The short run effect of an unanticipated monetary expansion is reduction in the real interest rates. This will increase aggregate demand. This will increase real GDP, increasing employment, and reducing unemployment.
- 13.36 A The short run effect of an unanticipated monetary expansion is reduction in the real interest rates. This will increase aggregate demand. This will increase real GDP, increasing employment, and reducing unemployment.
- 13.37 A The short run effect of an unanticipated monetary restriction is increase in the real interest rates. This will decrease aggregate demand. This will decrease real GDP, decreasing employment, and increasing unemployment.
- 13.38 B The short run effect of an unanticipated monetary restriction is increase in the real interest rates. This will decrease aggregate demand. This will decrease real GDP, decreasing employment, and increasing unemployment.
- 13.39 E The short run effect of an unanticipated monetary restriction is increase in the real interest rates. This will decrease aggregate demand. This will decrease real GDP, decreasing employment, and increasing unemployment.
- 13.40 D The short run effect of an unanticipated monetary restriction is increase in the real interest rates. This will decrease aggregate demand. This will decrease real GDP, decreasing employment, and increasing unemployment.
- 13.41 C The short run effect of an unanticipated monetary restriction is increase in the real interest rates. This will decrease aggregate demand. This will decrease real GDP. It will also exert downward pressure on the prices of goods and services, since the demand for goods in general will fall.
- 13.42 C The short run effect of an unanticipated monetary expansion is reduction in the real interest rates. This will increase aggregate demand. This will increase real GDP, increasing employment, and reducing unemployment in the short run. In the long run, however, the increased employment will lead to higher real wages. Long run equilibrium will be restored with a return to natural levels of unemployment and increasing prices of goods and services. In the long run, real GDP cannot be increased through monetary policy, and neither can employment.

- 13.43 B The short run effect of an unanticipated monetary expansion is reduction in the real interest rates. This will increase aggregate demand. This will increase real GDP, increasing employment, and reducing unemployment in the short run. In the long run, however, the increased employment will lead to higher real wages. Long run equilibrium will be restored with a return to natural levels of unemployment and increasing prices of goods and services. In the long run, real GDP cannot be increased through monetary policy, and neither can employment.
- 14-44 C The short run effect of an unanticipated monetary restriction is increases in the real interest rates. This will decrease aggregate demand. This will decrease real GDP, decreasing employment, and raising unemployment in the short run. In the long run, however, the decreased employment will lead to lower real wages. Long run equilibrium will be restored with a return to natural levels of unemployment and decreasing prices of goods and services.
- 13.45 A The short run effect of an unanticipated monetary expansion is reduction in the real interest rates. This will increase aggregate demand. This will increase real GDP, and raise prices of goods and services somewhat. In the long run, however, the increased employment will lead to higher real wages. Long run equilibrium will be restored with a return to natural levels of unemployment and even higher prices of goods and services.
- 13.46 D The short run effect of an unanticipated monetary restriction is increases in the real interest rates. This will decrease aggregate demand. This will decrease real GDP and put some downward pressure on goods prices. In the long run, however, the decreased employment will lead to lower real wages. Long run equilibrium will be restored with a return to natural levels of unemployment and even lower prices of goods and services.
- 13.47 B The short run effect of an unanticipated monetary expansion is reduction in the real interest rates. This will increase aggregate demand. This will increase real GDP, and raise prices of goods and services somewhat. In the long run, however, the increased employment will lead to higher real wages. The increasing product prices and increased demand for loans that results will raise real interest rates, at least to their original levels. Because of higher inflation, nominal interest rates will likely be higher than originally. In the long run, nothing real will change due to monetary policy.
- 13.48 C The short run effect of an unanticipated monetary restriction is higher real interest rates. This will decrease aggregate demand. This will decrease real GDP, and lower prices of goods and services somewhat. In the long run, however, the decreased employment will lead to lower real wages. The decreasing product prices and decreased demand for loans that results will lower real interest rates, at least to their original levels. Because of lower inflation, nominal interest rates will likely be lower than originally. In the long run, nothing real will change due to monetary policy.
- 13.49 E Anticipated monetary policy means that the effects that the policy might have on inflation are anticipated, so that wages and interest rates take the inflation into account.
- 13.50 C If all of the effects of a policy on inflation are accounted for by decision makers, the long run is reached very quickly. The short run equilibrium assumes that wages and interest rates are based on incorrect predictions of the price level. If interest rates and resource contracts completely take changes in the price level into account, there is no short run equilibrium. The long run is reached right away. In effect, there is no short run.
- 13.51 B This unemployment rate and inflation rate indicate that the economy is operating at less than full employment, so that the short run equilibrium is currently to the left of the long run aggregate supply curve. To remedy the situation, the Fed could increase the money supply to increase aggregate demand. This could be done by bond purchases.
- 13.52 C $76 \times (100 \div 40) = 190$
- 13.53 A $15238 \times (100 \div 16040) = 95$
- 13.54 B $3880 \times (100 \div 97) = 4000$

- 13.55 C $5005 \times (100 \div 116.4) = 4300$
- 13.56 A $3500 \times (100 \div 70) = 5000$
- 13.57 A $14000 \times (100 \div 280) = 5000$
- 13.58 B You can calculate the numbers (for rate of change in prices) in the table above to get the exact answer, or just look for which country has the biggest increase in the GDP deflator.
- 13.59 C You can calculate the numbers (for rate of change in prices) in the table above to get the exact answer, or just look for which country has the smallest increase in the GDP deflator.
- 13.60 B You can calculate the numbers (for rate of change in M) in the table above to get the exact answer, or just look for which country has the biggest increase in M.
- 13.61 .C You can calculate the numbers (for rate of change in M) in the table above to get the exact answer, or just look for which country has the smallest increase in M.
- 13.62 C You will have to calculate the real GDP numbers (as in 13.52 to 13.57) to find out which has the biggest increase in real GDP. The only country with an increase is Nausea.
- 13.63 A To find the change in the price level, find either $(280-70)/70$ or find $(280 \div 70) - 1$, and convert to percent.
- 13.64 E To find the change in the price level, find either $(116.4-97)/97$ or find $(116.4 \div 97) - 1$, and convert to percent.
- 13.65 D To find the change in the price level, find either $(16040-40)/40$ or find $(16040 \div 40) - 1$, and convert to percent.
- 13.66 D In addition to a reduction of the money supply by about one-third between 1930 and 1933, taxes were raised in 1932, which probably didn't help things much.
- 13.67 C While most economists now believe that the Fed caused the depression, the other items listed, except for C, probably contributed to it. The stock market crash predicted the Depression, but did not cause it. In 1929 new Fed Chairman Adolf Miller announced that stocks were overvalued, and that the Fed would take action to remedy the situation, partly by raising the discount rate. Fear that the Fed would cut the money supply in the months ahead set off a panic that people who bought stock with borrowed funds would be forced to sell (as indeed they would), and that the economy as a whole would slow down in the following years (as indeed happened). This caused the stock market crash, but the crash was a result of news of the coming events, rather than the cause of them. Actually, the stock market (the Dow Jones Average) rebounded to early 1929 levels by the middle of 1930, as the Fed backtracked a bit. But in the middle of 1930, the Fed's policies became restrictive, and the slide in the economy began. One good web site to see some of this is at the San Francisco Fed:
<http://www.frbsf.org/econsrch/wklyltr/wklyltr99/el99-10.html>
- 13.68 D After the 1929 crash, the Fed backtracked a bit until the middle of 1930, when it actually implemented a restrictive monetary policy. The 1930 Fed policy caused another, much bigger but more gradual, fall in the stock market. After the 1987 crash, in contrast, Fed chairman Alan Greenspan announced "The Federal Reserve, consistent with its responsibilities as the nation's central bank, affirmed today its readiness to serve as a source of liquidity to support the economic and financial system."
- 13.69 E Farm price supports were not a factor in making the depression worse.
- 13.70 B Monetarists do believe that monetary policy has strong effects on the economy. Because of that belief, they think that it should be used sparingly, if ever, to "fine tune" the economy.
- 13.71 B This is referred to as the "monetary rule." Rather than raising and lowering the growth rate of the money supply, a steady course should be maintained. Some evidence of this was presented in the economic slowdown of 2000-01. In part, this slowdown may have been caused by Fed policies to slow down inflation in late 1999 and early 2000.

- 13.72 A "Fine-tuning" of the economy, as it is called, is an activist strategy.
- 13.73 C Nonactivists believe that lags in fiscal and monetary policies' effects often mean that its results will interfere with the self-correcting mechanism. By the time a policy that is designed to help speed the process starts to have an effect, the process is already largely completed. Rather than making the transition to long run equilibrium quicker, the policy is likely to lead to overshooting the long run equilibrium (and a short run situation that will require additional correction).
- 13.74 D Activists and nonactivists might agree about the effects of policy (especially monetary policy). They differ about whether the policy can be timed to stabilize the economy.
- 13.75 C Almost all economists agree that monetary policy is powerful in controlling the economy. Monetarists believe that the power is too great to use. You might think of the monetarists' view of monetary policy as the view that most people have of atomic weapons; it might be nice to have them, but you probably ought not to use them.
- T13.1a A If the interest rate on checking accounts rises, the opportunity cost of holding money in that form will fall relative to other kinds of assets.
- T13.1b C If people have higher incomes, they generally will hold more wealth of all kinds, including money. Plus, they will want to have more money to make regular purchases and pay bills.
- T13.1c. B If inflation is low, there is less chance of losing wealth by holding money, so the opportunity cost of holding wealth in the form of money is reduced.
- T13.2 D Increases in the money supply reduce interest rates in the short run, increasing people's wealth and making borrowing easier.
- T13.3a C If the policy is unanticipated, the real interest rate will fall when the growth rate in the money supply is increased. This will increase aggregate demand and increase real GDP in the short run.
- T13.3b A If a monetary policy is anticipated, the economy just jumps to the long run situation. Nothing real will change in the long run, but since there is more money in the economy, all nominal prices will be higher. With anticipated policy effects, the short run looks the same as this long run.
- T13.4a C If the Fed sells bonds, bank reserves will fall. Households will have a harder time borrowing, and will have less wealth. The value of the dollar will rise relative to other currencies (since there will be more dollars). This will decrease exports (since U.S. goods will look more expensive to foreign buyers). The higher interest rates will reduce the value of all assets (since asset prices are inversely related to interest rates).
- T13.4b B If the Fed sells bonds, bank reserves will fall. Real interest rates will rise, since fewer loans will be made. Households will have a harder time borrowing, and will have less wealth. The higher interest rates will reduce the value of all assets (since asset prices are inversely related to interest rates). The reduction in aggregate demand will tend to reduce real GDP.
- T13.4c E If the Fed sells bonds, bank reserves will fall. Real interest rates will rise, since fewer loans will be made. Households will have a harder time borrowing, and will have less wealth. The higher interest rates will reduce the value of all assets (since asset prices are inversely related to interest rates). The reduction in aggregate demand will tend to reduce real GDP and raise unemployment.
- T13.5 A Assuming the President is successful, the short run effect of an unanticipated monetary expansion is reduction in the real interest rates. This will increase aggregate demand. This will increase real GDP, and raise prices of goods and services somewhat. In the long run, however, the increased employment will lead to higher real wages. The increasing product prices and increased demand for loans that results will raise real interest rates, at least to their original levels. Because of higher inflation, nominal interest rates will likely be higher than originally. In the long run, nothing real will change due to monetary policy.
- T13.6 B While expansionary policy reduces real interest rates in the short run, it also increases inflation in the long run, and inflation raises both real and nominal interest rates.

- T13.7 D The less predictable the effects of policy, and the timing of those effects, the more likely the policy is to make fluctuations in the economy more severe.
- T13.8 B When this happens, people often conclude that the high interest rates create inflation somehow. This is an example of confusing cause and effect. If two things happen together, one must be careful to analyze which one is caused by the other (or whether some third thing is causing both to happen). With interest rates and inflation, the growth of the money supply influences both. However, inflation influences interest rates as well.
- T13.9a. B People adapt to what they have experienced, according to the adaptive expectations view. If you didn't hear a weather forecast, you would expect today's weather to be like yesterday's or the day before yesterday's. Applying this idea to inflation gives the adaptive expectations hypothesis.
- T13.9b A Rational expectations assumes that people try to get all the information they can, especially when making important financial decisions. People also set up ways to protect themselves from changes they do not predict (by adjusting interest rates automatically for inflation, or putting cost of living clauses into their labor contracts). Thus, any changes in policy will lead to changes in decisions, even if the effects of the policy (on inflation) are not yet experienced. The implication is that all monetary policy effects are anticipated, and the economy moves immediately to the long run equilibrium.
- T13.9c B Monetary policy will only affect real variables if people can make mistakes about inflation rates (leading to a short run equilibrium that is not the same as the long run equilibrium. This can only occur if their inflationary expectations do not keep up with the actual price level, but are based on their past experience.
- T13.10a A Nonactivists think that there is too much going on and too many lags for monetary policy to have its desired effects at the time that they will be needed.
- T13.10b E The overall goal of stability without inflation would be to keep spending in the form of $M \times V$ growing at the same rate as the long run growth of real GDP. If the nature of money is changing, keeping track of it and controlling it is made more difficult. Also, keeping M2 growth at a steady rate, for example, may not translate into a steady growth rate in spending. Each component of M2 probably has its own velocity, and those velocities are changing over time. For instance, checking accounts can be spent much more easily with debit cards and electronic funds transfers than used to be the case when paper checks had to be written. So, even if the amount of checking account money has only grown by 5%, the amount of spending that can be done with checking account money may have increased by many times as much.
- T13.11 B Tax increases in 1932 may have slowed down the process that normally would have restored long run equilibrium. Certainly, the Fed's actions in 1937 and 1938, by raising reserve requirements and slowing down the growth in bank reserves, counteracted what the self-correcting mechanism had started to do to restore real GDP to a long run equilibrium. These policies lengthened the Depression.

Chapter 14

General Multiple-Choice Questions

- 14.1 A balanced budget for the government means that
- A. aggregate spending is in line with aggregate saving.
 - B. government spending is constant from year to year.
 - C. tax revenues are equal to government spending.
 - D. consumption is 100% of disposable income.
 - E. injections equal leakages.
- 14.2 If government spending exceeds government tax revenues, then
- A. the government has a spending surplus.
 - B. the government is running a budget deficit.
 - C. the government is bankrupt.
 - D. the government is balancing the budget.
 - E. the government has a fiscal policy surplus.
- 14.3 If government spending is less than government tax revenues, then
- A. the government has a budget surplus.
 - B. the government is running a budget deficit.
 - C. the government is over-fiscal.
 - D. the government is balancing the budget.
 - E. the government has a fiscal policy over-account.
- 14.4 A government budget surplus means
- A. government spending is too much, and such spending levels cannot be continued.
 - B. government spending is more than private spending.
 - C. government spending is too much and inflation will result.
 - D. government spending is less than tax revenues.
 - E. government spending is more than tax revenues.
- 14.5 A government budget deficit means
- A. government spending is too much, and such spending levels cannot be continued.
 - B. government spending is more than private spending.
 - C. government spending is too much and inflation will result.
 - D. government spending is less than tax revenues.
 - E. government spending is more than tax revenues.
- 14.6 Government transfer payments
- A. count as part of GDP and also count as part of government spending.
 - B. don't count as either part of GDP or part of government spending.
 - C. count as part of GDP but not part of government spending.
 - D. don't count as part of GDP but are part of government spending.
 - E. are payments the government makes to itself, and thus may or may not count in GDP.
- 14.7 When the government is running a deficit, it pays for most of its extra spending by
- A. selling securities, such as bonds and other Treasury notes.
 - B. printing up the extra money it needs.
 - C. selling off public lands and other property it owns.
 - D. selling gold from Fort Knox.
 - E. borrowing the money from its parents.

- 14.8 The total amount of money owed by the government due to all the past deficits is called the
- A. gross domestic product.
 - B. gross national product.
 - C. gross deficit.
 - D. national debt.
 - E. big enchilada.
- 14.9 Fiscal policy is defined as
- A. changes in government expenditure to influence equilibrium GDP.
 - B. changes in taxes to influence equilibrium GDP.
 - C. changes in the money supply to influence equilibrium GDP.
 - D. changes in investment intended to influence GDP.
 - E. changes in either government spending or taxes to influence the equilibrium GDP.
- 14.10 Classical (19th century) economists had very definite ideas about how the economy reached equilibrium. According to Keynes, such thinking was incorrect because
- A. Keynes assumed that wages and prices are inflexible in the short run.
 - B. the interest rate adjusts so that planned saving and investment are always equal.
 - C. saving and investment are done by different people and thus need not be equal.
 - D. of the permanent income hypothesis.
 - E. income is not important in determining consumption.
- 14.11 In the Keynesian model, the primary determinant of consumer spending is
- A. the interest rate.
 - B. the price level.
 - C. income.
 - D. expected inflation.
 - E. the business cycle.
- 14.12 In the pure Keynesian model, which of the following would be the most likely result of an autonomous increase in government spending of \$5 billion?
- A. an increase in the cost of loans for investment.
 - B. an increase in consumer expenditures in the following few months.
 - C. an increase in national income of exactly \$5 billion.
 - D. an increase in national income of less than \$5 billion
 - E. a decrease in investment to offset the increase in government spending.
- 14.13 In the Keynesian model, which of the following is most likely to increase the level of consumption?
- A. an increase in taxes
 - B. an increase in government spending.
 - C. an increase in the interest rate.
 - D. a decrease in government spending.
 - E. a decrease in income (or expected income).
- 14.14 Which of the following is not a major insight or conclusion of the Keynesian model?
- A. Changes in income, as well as changes in prices, play a role in the macroeconomic adjustment process, particularly in the short run.
 - B. A general overproduction of goods relative to their demand is impossible, since supply production will generate income sufficient to create demand.
 - C. Fluctuations in aggregate demand are an important source of economic instability.
 - D. Fiscal policy can be important in determining economic activity.
 - E. Autonomous changes in spending (such as government spending) can have multiplied effects on GDP.

- 14.15 Which of the following is true?
- A. In the Keynesian model, interest rates are very important in increasing real output and reducing unemployment.
 - B. In the Keynesian model, changes in the price level help to restore the economy to full employment after a recession.
 - C. In the Keynesian model, the multiplier effect makes it easier to use fiscal policy to stabilize the economy.
 - D. In the Keynesian model, if the economy is operating at less than full employment, some autonomous change in expenditure is necessary to increase GDP.
 - E. In the Keynesian model, the only possible equilibrium for the economy is one at which all resources, including labor, are being fully used (that is, there is full employment).
- 14.16 "If there is unemployment, the average wage rate will decline as the unemployed workers choose lower wages rather than going without a job. More workers will be hired as the wages fall (since the demand for labor slopes down), and full employment will be restored." According to the Keynesian model, this statement is
- A. incorrect, because widespread unemployment causes wages to rise, not fall.
 - B. incorrect, because the demand curve for labor slopes up, not down.
 - C. correct.
 - D. incorrect, rather, changes in interest rates will restore full employment, by encouraging investment and business expansion.
 - E. incorrect, since wages and prices are inflexible, particularly in the downward direction.
- 14.17 If the economy is in recession, the Keynesian model would predict
- A. that a self-correcting mechanism would restore full employment quickly.
 - B. that the government should be careful not to run a deficit, thus taxes should be raised.
 - C. that businesses would not expand resource employment unless aggregate demand is increased through use of fiscal policy.
 - D. that government spending would have to be reduced, so that more money would be available to consumers and businesses to expand the economy.
 - E. that a budget surplus would be needed to restore equilibrium.
- 14.18 A \$5 billion tax cut was accompanied by an \$8 billion increase in consumer spending. From a Keynesian viewpoint,
- A. additional spending by those with increased disposable (after-tax) incomes led to increased incomes and additional spending by others.
 - B. lower taxes led to lower government spending, which induced additional consumer spending.
 - C. the tax reduction caused interest rates to fall, inducing additional consumer spending.
 - D. lower taxes increased investment by the same amount.
 - E. none of the above can explain the observation.
- 14.19 From 1983 to 1989, the Federal government deficit was increasing and the economy was growing very quickly (in both nominal and real terms). From 1990 to 1992, the Federal government deficit was growing even faster than it had in the 1980s, and yet the economy was growing very slowly. From this evidence (and class discussions) it appears that
- A. fiscal policy is the only influence on the economy.
 - B. deficits always actually work to stimulate the economy to grow.
 - C. other factors besides government spending and taxing must influence the economy.
 - D. that Keynesian economic theories completely describe the workings of our economy.
 - E. that a stimulus package combining a large increase in government spending with a large tax increase is likely to make the economy grow.

- 14.20 In the Keynesian version of the aggregate demand/aggregate supply model, which of the following is most likely to lead to inflation?
- A. A reduction in investment at a time when businesses are operating at less than full capacity.
 - B. An increase in government spending without a tax increase, while the economy is at full employment.
 - C. An increase in government spending coupled with a larger tax increase to eliminate the budget deficit.
 - D. A budget surplus during a period of full employment.
 - E. Increases in taxes during a recession.
- 14.21 If the economy were experiencing a recession, the Keynesian model would support
- A. balancing the government budget.
 - B. increasing taxes or reducing government spending to achieve a government budget surplus.
 - C. leaving the economy alone, since the self-correcting mechanism would eventually restore full employment equilibrium.
 - D. creating a government budget deficit (or increasing it).
 - E. doing nothing, since any attempt to use fiscal policy will fail because increased deficits will reduce consumption.
- 14.22 If the economy were experiencing inflation, the Keynesian model would support
- A. balancing the government budget.
 - B. increasing taxes or reducing government spending to achieve a government budget surplus.
 - C. leaving the economy alone, since the self-correcting mechanism would eventually restore full employment equilibrium.
 - D. creating a government budget deficit (or increasing it).
 - E. doing nothing, since any attempt to use fiscal policy will fail because increased deficits will reduce consumption.
- 14.23 The Keynesian model focuses mostly on
- A. the interest rate effect of large government deficits.
 - B. the aggregate demand effects of government deficits and surpluses.
 - C. the effects that taxes have on aggregate supply.
 - D. the inability of deficits to increase aggregate demand due to reductions in current consumption that accompanies deficits.
 - E. the self-correcting mechanism of falling wages and resource prices.
- 14.24 Which of the following would be an example of expansionary fiscal policy?
- A. Increase in the tax rate.
 - B. Reduction in the government budget deficit.
 - C. Reduction in interest rates.
 - D. Increase in government spending.
 - E. Increase in the money supply.
- 14.25 Which of the following would be an example of restrictive fiscal policy?
- A. Increase in the tax rate.
 - B. Increase in the government budget deficit.
 - C. Reduction in interest rates.
 - D. Increase in government spending.
 - E. Increase in the money supply.

- 14.26 The Keynesian model would suggest that restrictive fiscal policy should be pursued when
- A. the economy is in recession.
 - B. inflation is becoming a problem.
 - C. unemployment is rising.
 - D. interest rates are too high.
 - E. the economy is at full employment and there is little or no inflation.
- 14.27 The Keynesian model would suggest that expansionary fiscal policy should be pursued when
- A. the economy is in recession.
 - B. inflation is becoming a problem.
 - C. unemployment is falling.
 - D. interest rates are too low.
 - E. the economy is at full employment and there is little or no inflation.
- 14.28 Expansionary fiscal policy during recessions and restrictive fiscal policy to combat inflation is called
- A. crowding out policy.
 - B. new classical policy.
 - C. countercyclical policy.
 - D. supply side policy.
 - E. progressive policy.
- 14.29 A policy that tends to move the economy in a direction opposite of the business cycle fluctuations in the economy is called
- A. a crowding out policy.
 - B. a new classical policy.
 - C. a countercyclical policy.
 - D. a supply side policy.
 - E. a progressive policy.
- 14.30 The "crowding-out effect" suggests that
- A. expansionary fiscal policy causes inflation.
 - B. restrictive fiscal policy is a useful weapon against inflation.
 - C. the reduction in private spending resulting from higher interest rates caused by a budget deficit will partially offset the expansionary impact of an increase in government spending.
 - D. a budget deficit will cause the private demand for loanable funds to fall, and thus will raise interest rates.
 - E. any increase in government spending will have a multiplied effect.
- 14.31 The "crowding-out effect" refers to
- A. the reduction in private spending that a deficit will cause as consumers anticipate higher future taxes.
 - B. the reduction in private spending that a deficit will cause as government borrowing increases real interest rates.
 - C. the increase in private spending that will be pushed through the economy as government spending increases incomes of consumers and thus stimulates buying.
 - D. the increase in private spending that a deficit will cause as interest rates fall due to increased government spending and reduced taxation.
 - E. the reduction in private spending that a deficit will cause as the economy becomes less stable and more uncertain.

- 14.32 According to the crowding out theory, expansionary fiscal policy is accompanied by increased government borrowing,
- A. interest rates are likely to fall, thus increasing the impact of the deficit on the economy.
 - B. interest rates are likely to rise, thus reducing consumption and investment spending.
 - C. saving is likely to fall, thus increasing private spending.
 - D. the "crowding-out" theory predicts that there will be no impact on interest rates.
 - E. resource prices will fall, thus further increasing aggregate demand.
- 14.33 The "crowding-out effect" suggests that
- A. fiscal policy will be very effective in correcting both recessions and inflation.
 - B. fiscal policy will be very effective in correcting recessions, but may not be as effective in combating inflation.
 - C. fiscal policy may not be very effective in correcting recessions, but will be effective in combating inflation.
 - D. fiscal policy may not be very effective in correcting either recessions or inflation.
 - E. fiscal policy will only be effective in correcting recessions if taxes are not raised, but will only be effective in combating inflation if taxes are raised.
- 14.34 The "crowding-out effect" stresses the impact of fiscal policy on
- A. inflation.
 - B. unemployment.
 - C. real GDP growth.
 - D. the money supply.
 - E. the interest rate.
- 14.35 "Government deficits simply increase future taxes, and thus will reduce current consumption." This argument against the effectiveness of fiscal policy summarizes the view of
- A. new classical economics.
 - B. Keynesian economics.
 - C. supply-side economics.
 - D. the "crowding-out" effect.
 - E. the Laffer curve.
- 14.36 New classical economists would say that the effect of an increase in government spending combined with an increase in the deficit would be
- A. an increase in aggregate demand.
 - B. no change in aggregate demand.
 - C. a decrease in aggregate demand.
 - D. an increase in long run aggregate supply.
 - E. a decrease in long run aggregate supply.
- 14.37 New classical economists would say that the effect a decrease in taxes combined with an increase in the deficit would be
- A. an increase in aggregate demand.
 - B. no change in aggregate demand.
 - C. a decrease in aggregate demand.
 - D. an increase in long run aggregate supply.
 - E. a decrease in long run aggregate supply.

- 14.38 According to new classical economic theory,
- A. increased government spending (with an increase in the deficit) is the best way to increase aggregate demand.
 - B. reduced taxation with an increase in the deficit is the best way to increase aggregate demand.
 - C. increased government spending with an increase in taxes is the best way to increase aggregate demand.
 - D. reduced government spending with a reduction in taxes is the best way to increase aggregate demand.
 - E. no fiscal policy would be effective in increasing aggregate demand.
- 14.39 The new classical view of the economy stresses the effect of
- A. expected higher future tax rates on current consumption and savings.
 - B. interest rates on current consumption.
 - C. deficits on the interest rate.
 - D. interest rates on aggregate supply.
 - E. tax rates on aggregate supply.
- 14.40 If fiscal policy is going to be used to reduce the ups and downs of the economy, timing
- A. is not particularly important, due to the "self-correcting mechanism."
 - B. is important, since the lags involved in enacting fiscal policy might actually destabilize the economy.
 - C. is always done automatically.
 - D. is not important, since the economy will not respond to fiscal policy that is not needed.
 - E. is only important if there is inflation.
- 14.41 Which of the following statements is not true of "automatic stabilizers"?
- A. They must be approved by Congress every time they are used to boost the economy.
 - B. They are a form of fiscal policy stimulus (or restraint) on the economy.
 - C. They include corporate profit tax, and the progressive income tax.
 - D. Among them are such "entitlement programs" as unemployment insurance.
 - E. They automatically tend to produce a budget deficit when the economy is sluggish, and produce budget surpluses (or smaller deficits) when the economy is growing quickly.
- 14.42 Supply side economics stresses the effect of
- A. tax rates on aggregate demand.
 - B. tax rates on aggregate supply.
 - C. deficits on aggregate supply.
 - D. interest rates on aggregate supply.
 - E. deficits on aggregate demand.
- 14.43 Supply side economic theory would predict that a long-term reduction in marginal tax rates will
- A. have no effect on aggregate demand, due to the expected increase in future taxes.
 - B. increase interest rates and offset any aggregate demand increases, if the tax cuts were accompanied by higher deficits.
 - C. increase aggregate supply in the short run and in the long run.
 - D. reduce aggregate demand, due to the effects on interest rates and expected future taxes.
 - E. increase aggregate supply in the short run, but not in the long run.

- 14.44 From 1983-1989, real GDP grew very fast, but there was almost no growth in the price level (and thus, little inflation). What is the best explanation for these observations?
- A. Aggregate supply must have increased, perhaps together with an increase in aggregate demand.
 - B. The huge budget deficits of the “Reagan Years” simply increased aggregate demand.
 - C. Increases in the money supply must have raised aggregate demand.
 - D. Tax cuts raised aggregate demand, but had no effect on aggregate supply.
 - E. Aggregate supply fell, as government-sponsored social programs were cut.
- 14.45 From 1983 to 1989, the economy grew steadily, while government deficits were high, but generally falling. In 1990 to 1992, the economy’s growth slowed (and actually became negative in 1991), while the deficit rose dramatically. From 1993 to 2000, the economy returned to strong growth, even though the deficit fell, and the government actually began to run a budget surplus. These observations...
- A. tend to prove that fiscal policy has the effect on the economy that Keynesian theory predicts.
 - B. tend to disprove Keynesian theory about the effects of fiscal policy on the economy.
 - C. tend to disprove new classical theory about the effects of fiscal policy on the economy.
 - D. tend to disprove supply side theory about the effects of fiscal policy on the economy.
 - E. tend to disprove the crowding out theory about the effects of fiscal policy on the economy.

Multiple-Choice Based on Textbook's End-of-Chapter Questions

- T14.2a. What is the crowding-out effect, and how does it change the predictions of the Keynesian model regarding fiscal policy?
- A. Crowding out is when the spending by government raises prices, so consumers buy fewer goods. It slightly weakens the effect of government spending increases.
 - B. Crowding out is when government deficits raise interest rates so that it is harder for consumers and business to borrow and spend. It weakens the effects of fiscal policy.
 - C. Crowding out is when the government raises taxes to finance its greater spending. The higher taxes reduce private spending, thus weakening the effects of fiscal policy.
 - D. Crowding out is when government purchases take many goods out of markets where consumers and businesses make purchases. Since the private demand for such goods has to be met, suppliers will increase output, increasing the effectiveness of government spending.
 - E. Crowding out is when government purchases put money in the hands of producers, who then go out and spend more money to hire more resources to make more goods. Since it stimulates aggregate demand (and resource demand), this effect increases the impact of fiscal policy.
- T14.2b How does the new classical theory of fiscal policy differ from the crowding-out model?
- A. New classical theory focuses on the effects of higher future taxes, rather than interest rates, in reducing the effect of fiscal policy.
 - B. New classical theory focuses on the effects of higher future taxes, rather than interest rates, in increasing the effect of fiscal policy.
 - C. New classical theory focuses on the effects of higher future prices, rather than interest rates, in reducing the effect of fiscal policy.
 - D. New classical theory focuses on the effects of higher future prices, rather than interest rates, in increasing the effect of fiscal policy.
 - E. New classical theory focuses on the effects of higher interest rates, rather than prices, in reducing the effect of fiscal policy.
- T14.4 Automatic stabilizers are government programs that tend to
- A. bring expenditures and revenues into balance without legislative action.
 - B. signal Congress that legislative action is needed.
 - C. signal the Fed that monetary action is needed.
 - D. increase tax collections automatically during a recession.
 - E. reduce the ups and downs in aggregate demand without legislative action.
- T14.5a How does the supply side view of fiscal policy differ from the various demand-side theories?
- A. The supply side view of fiscal policy emphasizes that government spending increases aggregate supply in the short run, as well as aggregate demand.
 - B. The supply side view of fiscal policy emphasizes that government spending increases aggregate supply in the long run, as well as aggregate demand.
 - C. The supply side view of fiscal policy emphasizes that tax laws can impact the incentives for resource owners to offer resources in the economy.
 - D. The supply side view of fiscal policy emphasizes that the amount of tax collected can impact the aggregate demand as much as government spending.
 - E. The supply side view of fiscal policy emphasizes that government borrowing can impact the supply of loanable funds available for private borrowing, and thus reduce the effect of fiscal policy.

- T14.5b Why would a supply-side economist prefer a tax reform plan that reduced tax rates rather than a plan that just gave every taxpayer a particular sum of money (as a rebate), even if the total effects on government revenues would be the same?
- A. Because marginal tax rates, rather than total tax collected, affect incentives of resource sellers.
 - B. Because complicated tax laws (with many deductions) cost the economy untold millions.
 - C. Because interest, medical expenses and local taxes are not productive uses of resources.
 - D. Because government spending can be increased if tax revenues are increased, and the Laffer curve indicates that government revenues can go up if tax rates are reduced.
 - E. Because deficits crowd out private borrowing and spending by raising interest rates. If the government increased tax collections, it would not have to borrow as much.
- T14.6 According to the Keynesian view, what fiscal policy actions should be taken if the unemployment rate is high and current GDP is well below the economy's sustainable output rate?
- A. There is no policy that Keynesians would advocate in such circumstances.
 - B. Government spending should be reduced or taxes should be increased.
 - C. Government spending should be increased or taxes should be reduced.
 - D. Government spending should be increased and taxes should also be increased.
 - E. Government spending should be reduced and taxes should also be reduced.
- T14.8 "It is quite easy to achieve full employment and price stability. When output is at less than full employment, we run a budget deficit. If inflation is a problem, we run a budget surplus." This view
- A. is widely accepted today by most economists.
 - B. fails to recognize the problems of forecasting economic conditions and the effects of government deficits on private spending.
 - C. is a statement that would be made by most new Classical economists.
 - D. is a statement that would be made by most supply side economists.
 - E. is backward. Deficits will correct inflation and surpluses are used to reduce unemployment.
- T14.10 From 1983 to 1989, there was strong growth of the economy. At the same time, inflation fell, and then remained low, and unemployment was generally falling. Which of the following possible explanations is not consistent with the economy's actual performance during this time?
- A. During this period, computers became much more advanced and inexpensive, permitting their use in business to an extent not possible before. This increased aggregate supply.
 - B. During this period, the federal government deficit rose and remained high, mostly due to increases in government spending. This increased aggregate demand.
 - C. In the beginning of this period, marginal tax rates were cut, and were kept low. This increased long run and short run aggregate supply.
 - D. During this period, the average prices of oil and other resources fell (in real terms). This increased short run aggregate supply.
 - E. During this period, tax incentives and other circumstances encouraged investments in new equipment and research into new technologies. This increased aggregate supply.

Answers and Explanations

- 14.1 C
- 14.2 B
- 14.3 A
- 14.4 D
- 14.5 E
- 14.6 D. GDP only counts payments that are made for production of good and services Transfers, such as Social Security payments and unemployment benefits, do not count in GDP because the people getting they payments don't have to provide any good or service in exchange for the payments. No production or transactions are involved. However, the payments are still spending by the government. Thus, they have to be paid for by taxes or government borrowing.
- 14.7 A. The way the federal government borrows money for a long time is by selling bonds. For shorter-term borrowing, it sells Treasury notes. These are both simply "IOU's" that promise to pay back an amount in the future in exchange for some money payment (by the purchaser) now. Other levels of government (state, local, school boards, etc.) also sell bonds to borrow money.
- 14.8 D The national debt is the total accumulated borrowing by the government. It is the total amount still owed by the government from its past borrowing. The government increases the debt when it has a budget deficit, and reduces the debt (pays some of it off) when there is a budget surplus.
- 14.9 E. When either government spending or taxes are used to influence the economy, it is fiscal policy.
- 14.10 A. Classical economists assumed that the economy would reach a long-run equilibrium pretty quickly, so that long periods of unemployment would not occur. In other words, the self-correcting mechanism discussed in previous chapters would operate very quickly to restore long run equilibrium. Keynes believed that the mechanism was not operating, during the Great Depression, because wages, prices, and interest rates are inflexible, especially when being pushed down. If wages don't fall, the self-correcting mechanism will not be able to fix a recession or other situation in which there is high unemployment.
- 14.11 C The Keynesian alternative to the Classical (quick acting markets for goods and resources) view stresses that the way to reduce unemployment is to increase spending. Keynes believed this could be done by increasing the incomes of some people, who would spend the money, thus generating incomes for other people, who would then also increase their spending. Keynes therefore emphasized the role of income in generating consumer spending, and created a new set of theories based on this emphasis.
- 14.12 B Autonomous spending is spending that is not based on income. When this is increased, such as when the government spends, it creates income that eventually creates other spending based on the income (called "induced spending").
- 14.13 B. Autonomous spending is spending that is not based on income. When this is increased, such as when the government spends, it creates income for consumers that eventually increases their consumption spending, based on their higher incomes. Notice that the autonomous spending could come from other sources besides the government, but Keynes believed it is usually hard to convince businesses or consumers to spend more during a recession, unless people's incomes are increasing.

- 14.14 B Keynes believed that the Great Depression continued because consumers did not have sufficient income to purchase the goods and services that had been produced. In other words, Keynes thought **demand was not keeping up with supply**, and prices were not changing rapidly enough to reach an equilibrium. Changes in income could be used to fix the economy if prices weren't changing fast enough to do it (see answer A). If income could be increased, it could fix the problems caused by inflexible prices. Since incomes were too low, so was aggregate demand (answer C). To correct this problem, Keynes believed that the government could create income through fiscal policy (answer D). When the government spent some money, it would increase incomes of some people, who would spend the higher income, and create income for others in the economy, thus multiplying the effect (answer E).
- 14.15 D. The Keynesian view is that the self-correcting mechanism of resource price and interest rate changes will operate very slowly when there is a recession. The alternative suggested by the Keynesian view is an increase in autonomous spending to increase income and stimulate aggregate demand. Government spending is one form of autonomous spending.
- 14.16 E The self-correcting mechanism the statement describes would work eventually, but it will take a long time, in the Keynesian view, do the inflexibility ("stickiness") of wages.
- 14.17 C In a recession, the Keynesian view is that aggregate demand needs to be increased. The way to do that, since interest rates tend to be ineffectual in such cases, is to increase incomes of consumers and stimulate their spending. If businesses could be persuaded to increase their spending and hiring, this would help, but they are not likely to be talked into expanding in a recession, so the only alternative is government spending (fiscal policy).
- 14.18 A. Cutting taxes can stimulate consumer spending in much the same way as increased government spending. By increasing consumer's take-home pay, it will encourage spending, which will increase the incomes of other consumers in the economy, who will also increase spending. The secondary effects snowball.
- 14.19 C If big deficits always lead to a growing economy, bigger deficits should also, but they didn't (in fact, the economy shrank in real terms in 1991). Since the connection between deficits and growth isn't very strong, there must be other important factors besides fiscal policy.
- 14.20 B The Keynesian version of the aggregate demand /aggregate supply model is one in which the self-correcting mechanism doesn't operate very fast, and the short run aggregate supply curve is pretty flat (at least when the economy is in a recession). Inflation would then occur if the aggregate demand curve is moved to the right when the economy is already in a long-run equilibrium.
- 14.21 D The Keynesian view emphasizes the use of government fiscal policy in repairing the economy by affecting consumer spending (and thus, aggregate demand). In a recession, moving the aggregate demand curve to the right would correct the problem. This means increasing consumer spending by increasing government spending (and thus, consumer income) or reducing taxes (and thus, increasing the disposable or spendable income of consumers).
- 14.22 B Inflation in the Keynesian model is caused when the aggregate demand curve is too far to the right, and consumer spending is too great, causing high prices. To alleviate the situation, the aggregate demand curve must be moved back to the left, using fiscal policy. This would involve raising taxes or lowering government spending, resulting in a government surplus (or lower deficit).
- 14.23 B The Keynesian view of aggregate demand and aggregate supply focuses on the effect of fiscal policy upon the aggregate demand curve.
- 14.24 D. Expansionary fiscal policy is policy intended to make the economy grow by increasing aggregate demand. This is done by increasing consumer income and spending. One way to do this is by increased government spending. (Another way would be through tax cuts).

- 14.25 A Restrictive fiscal policy is policy intended to make the economy grow less by decreasing aggregate demand. This is done by decreasing consumer income and spending. One way to do this is by decreased government spending. Another way would be through tax increases.
- 14.26 B. Restrictive fiscal policy would reduce aggregate demand, either by reduced government spending (reducing injections of income into the economy) or by increased taxation (reducing spendable income). These actions make sense if the economy has lower unemployment than the natural rate, and has inflation, since these would mean that the aggregate demand is too far over to the right to be in long run equilibrium.
- 14.27 A. Expansionary fiscal policy would move the aggregate demand curve to the right. The Keynesian view would suggest this if the aggregate demand curve is now too far to the left. This would be indicated by high unemployment and low inflation. Also, it could be indicated by slow or no growth in real GDP (a recession).
- 14.28 C A policy, which uses fiscal policy to counteract whatever is wrong with the economy, combining expansionary policy at some times with restrictive policy at others, is countercyclical. It is called that because it operates counter to (opposite of) the business cycle. It is an attempt to stabilize the economy, rather than let it grow too fast or too slow.
- 14.29 C A policy, which uses fiscal policy to counteract whatever is wrong with the economy, combining expansionary policy at some times with restrictive policy at others, is countercyclical. It is called that because it operates counter to (opposite of) the business cycle. It is an attempt to stabilize the economy, rather than let it grow too fast or too slow.
- 14.30 C The crowding out effect is the observation that large government deficits require large amounts of government borrowing (even though the government borrows money by selling bonds, it still borrows from investors and savers who might lend to non-governmental borrowers instead). This will tend to increase interest rates, reducing the borrowing and spending by consumers and businesses, thus offsetting the intended increase in aggregate demand. Fiscal policy is made less effective due to its secondary effects on interest rates.
- 14.31 B The crowding out effect is the observation that large government deficits require large amounts of government borrowing (even though the government borrows money by selling bonds, it still borrows from investors and savers who might lend to non-governmental borrowers instead). This will tend to increase interest rates, reducing the borrowing and spending by consumers and businesses, thus offsetting the intended increase in aggregate demand. Fiscal policy is made less effective due to its secondary effects on interest rates.
- 14.32 B. The crowding out effect is the observation that large government deficits require large amounts of government borrowing (even though the government borrows money by selling bonds, it still borrows from investors and savers who might lend to non-governmental borrowers instead). This will tend to increase interest rates.
- 14.33 D The crowding out effect is the observation that government deficits affect the interest rate, and thus will offset (at least in part) the effects the government is trying to achieve by moving the aggregate demand curve by moving it back as private spending responds to the interest rate changes. Since the interest rate causes secondary effects that are the opposite of whatever the government is trying to do with its fiscal policy, the fiscal policy is less effective, and may have no effect at all. Fiscal policy is made less effective due to its secondary effects on interest rates.
- 14.34 E The crowding out effect is the observation that large government deficits require large amounts of government borrowing (even though the government borrows money by selling bonds, it still borrows from investors and savers who might lend to non-governmental borrowers instead). This will tend to increase interest rates.

- 14.35 A The new classical economics is a return to the view that the only way to fix the economy is to let the self-correcting mechanism do it, since fiscal policy has no effect. A deficit, for example, changes people's expectations about their future ability to spend, and will cause consumers to reduce their current consumption so they will have the same standard of living in the future (when taxes are higher or government spending is lower). This offsets the effect that the deficit would otherwise have in increasing aggregate demand. Fiscal policy is made ineffective due to its secondary effects on expectations of future taxes (and government spending).
- 14.36 B According to the new classical economics, a deficit changes people's expectations about their future ability to spend, and will cause consumers to reduce their current consumption so they will have the same standard of living in the future (when taxes are higher or government spending is lower). This offsets the effect that the deficit would otherwise have in increasing aggregate demand. Fiscal policy is made ineffective due to its secondary effects on expectations of future taxes (and government spending).
- 14.37 B According to the new classical economics, a tax cut, and the deficit it causes, will change people's expectations about their future ability to spend, and will cause consumers to reduce their current consumption so they will have the same standard of living in the future (when taxes are higher). This offsets the effect that the deficit would otherwise have in increasing aggregate demand. Fiscal policy is made ineffective due to its secondary effects on expectations of future taxes.
- 14.38 E According to the new classical economics, a deficit changes people's expectations about their future ability to spend, and will cause consumers to reduce their current consumption so they will have the same standard of living in the future (when taxes are higher or government spending is lower). This offsets the effect that the deficit would otherwise have in increasing aggregate demand. Fiscal policy is made ineffective due to its secondary effects on expectations of future taxes (and government spending).
- 14.39 A According to the new classical economics, a deficit changes people's expectations about their future ability to spend, and will cause consumers to reduce their current consumption, and increase their savings, so they will have the same standard of living in the future (when taxes are higher or government spending is lower).
- 14.40 B If fiscal policy is effective, to create the effect policy makers desire, they must realize that their action (such as increased government spending or tax cuts) will not have an effect on the economy until several months or years have passed.
- 14.41 A As the name implies, automatic stabilizers generate countercyclical spending or taxing effects without anyone having to make new decisions or create new programs. They need only be put in place once.
- 14.42 B Supply side economics would predict that lower marginal tax rates have some short run effects on resource supply, which may lower resource prices in the short run, but will especially increase long run aggregate supply.
- 14.43 C Supply side economics would predict that lower marginal tax rates have some short run effects on resource supply, which may lower resource prices in the short run, but will especially increase long run aggregate supply.
- 14.44 A. If deficits increased aggregate demand, and nothing else happened, we would expect the price level to increase along with real GDP. Since that did not occur, the aggregate supply curves must have also been moving to the right, so that the short run (and, perhaps, long run) equilibrium moved to the right without moving up as the aggregate demand increased. This may have been due to reductions in marginal tax rates, which were put into place at about the same time in the 1980's that government spending on defense and domestic programs were increased. According to the supply side view, this would have been the effect to expect when marginal tax rates were cut.

- 14.45 B The evidence from the 1990's clearly shows the opposite of what Keynesian theory would predict; high deficits were associated with slow growth, while low deficits (and surpluses) were associated with high growth rates of the economy. While none of the other theories is disproved by the observations listed, the Keynesian model (that deficits help the economy) does not match the observations. Clearly, there are secondary effects or other factors that are more important than deficits in explaining the growth of the economy.
- T14.2a B The crowding out effect suggests that the secondary effects (on interest rates) of fiscal policy may be important enough to make the policy ineffective.
- T14.2b A. New classical economics suggests that the secondary effects (on expectations of future taxes or spending) of fiscal policy may be important enough to make the policy ineffective.
- T14.4 E Automatic stabilizers are government programs that create countercyclical changes in government spending and taxes without anyone having to pass new spending bills or change the tax laws. The effects on fiscal policy happen by themselves, once the programs are put in place.
- T14.5a C Supply side economics focuses on the effect of taxes on aggregate supply. This emphasis differs from the other theories, in that it is not concerned with how or whether aggregate demand is changing. Supply side economics says that tax laws affect aggregate supply by changing the supply of resources, in the short run but especially in the long run.
- T14.5b A. Only changes in tax laws that affect people's decisions to sell resources or invest in creating new resources will have an effect on aggregate supply. Giving people more money to spend may increase aggregate demand temporarily, but that is not clear. However, lowering the tax rate may encourage people to work more hours, or might give them incentives to improve their skills and get higher paying jobs, since they know they can keep more of the money they earn from doing so. It may also give incentives to owners of other resources, such as farmland, timberland, and commercial property, to invest in developing the resources, since they too will get to keep more of the benefits from doing so.
- T14.6 C High unemployment would call for expansionary fiscal policy, in the Keynesian view. This means either increased government spending or reduced taxes.
- T14.8 B This statement would be consistent with the Keynesian model, but it overlooks the time delay before the effects of the policy will be seen in the economy. Also, it overlooks the possible secondary effects suggested by the crowding-out hypothesis and new classical economics.
- T14.10 B Increases in aggregate demand alone would have caused inflation.

Chapter 15

General Multiple-Choice Questions

- 15.1 As a result of specialization and trade, according to the law of comparative advantage, total output will
- A. decline, because specialization is costly.
 - B. rise only when there is a decrease in the output of other countries.
 - C. rise if a nation is a net exporter, but fall if the nation is a net importer of goods and services.
 - D. rise if a nation is a net importer, but fall if the nation is a net exporter of goods and services.
 - E. rise, because resources will be better directed towards their highest-valued uses.
- 15.2 According the law of comparative advantage, total output will be greatest when each country
- A. specializes in the production of those goods of which it can produce a greater quantity than another country.
 - B. specializes in the production of those goods for which it is a high opportunity cost producer.
 - C. specializes in the production of those goods that its people consume the most of.
 - D. raises trade barriers to give its producers a comparative advantage over countries that use cheap foreign labor.
 - E. specializes in producing goods for which it is a low opportunity cost producer.
- 15.3 Which of the following is not a result of international trade based on comparative advantage?
- A. The people in countries that trade will be able to consume more than would be possible if they produced everything themselves.
 - B. The people of a country will be poorer if low-cost goods are imported from other countries, since the people will not be able to get jobs.
 - C. Trade with other countries will enable larger-scale production and lower per-unit costs.
 - D. International competition will encourage domestic producers to produce goods of high quality at low prices.
 - E. The people who engage in the trades are mutually benefiting from the trades, thus utility is increased in their countries.
- 15.4 Suppose that the domestic demand and supply of oil would result in a market price higher than the world price for oil. In the absence of trade restrictions, the quantity of imported oil would then be
- A. equal to the shortage that would result in the domestic market at the world price.
 - B. equal to the surplus that would result in the domestic market at the world price.
 - C. zero.
 - D. equal to the domestic quantity demanded at the world market price.
 - E. equal to the domestic quantity supplied at the domestic market price.
- 15.5 Compared to the market prices of goods that would exist domestically without international trade, free trade with other countries will result in
- A. higher prices for the goods that are imported, but lower prices for goods that are exported.
 - B. lower prices for the goods that are imported, but higher prices for goods that are exported.
 - C. no change in prices of imported or exported goods.
 - D. the same price for the goods that are imported, but higher prices for exported goods.
 - E. lower price for the goods that are imported, but the same prices for exported goods.

- 15.6 A tariff is
- A. the same thing as an import quota.
 - B. a restriction on the maximum amount of a good that can legally be imported.
 - C. the amount of a good that would be imported if international trade were allowed.
 - D. a tax imposed on imported goods.
 - E. a customs official that checks imported goods and makes sure that import taxes have been paid.
- 15.7 Suppose that the United States imposed a tariff on television sets. Which of the following would be most likely?
- A. The price of televisions to U.S. consumers would increase and the demand for U.S. export products would rise.
 - B. The price of televisions to U.S. consumers would fall and the demand for U.S. export products would fall.
 - C. The price of televisions to U.S. consumers would increase and the demand for U.S. export products would fall.
 - D. The price of televisions to U.S. consumers would fall and the demand for U.S. export products would rise.
 - E. The price of televisions to U.S. consumers would remain the same and the demand for U.S. export products would not be affected.
- 15.8 Raising the tariff on imported running shoes is likely to
- A. increase the price and quantity of shoes consumed.
 - B. leave the price unchanged but reduce the quantity of shoes purchased.
 - C. leave both the price and quantity of the shoes unchanged, since domestic producers will increase output to make up for the reduction in imported shoes.
 - D. reduce the price and quantity of shoes consumed.
 - E. increase the price of shoes and reduce the quantity purchased.
- 15.9 A reduction in the tariff on imported clothing would most likely benefit
- A. workers in the domestic clothing industry.
 - B. domestic consumers of clothing.
 - C. domestic producers of clothing.
 - D. foreign producers at the expense of domestic consumers.
 - E. foreign consumers at the expense of domestic producers.
- 15.10 An elimination of the import quotas on imported sugar would most likely benefit
- A. domestic producers of sugar.
 - B. workers in the domestic sugar industry.
 - C. domestic producers of goods in which sugar is an ingredient.
 - D. no one.
 - E. domestic producers of sugar substitutes.
- 15.11 What is the most likely difference between a tariff on imported automobiles and an import quota that restricts the number of imported automobiles by the same quantity?
- A. The final price of imported automobiles will be higher with a tariff than it would with a quota.
 - B. The final price of imported automobiles will be higher with a quota than it would be with a tariff.
 - C. The government will earn more money with a tariff than it would earn if it imposed a quota.
 - D. The government will earn more money by imposing a quota than it would with a tariff.
 - E. There would be no significant difference.

- 15.12 Which of the following is not a valid or partially valid argument used to support trade restrictions?
- A. Trade restrictions increase domestic employment and improve domestic living standards.
 - B. New domestic industries may need to be protected from international competition until they can catch up to more established producers in other countries.
 - C. If foreign producers attempt to “dump” products on the domestic market at prices below cost, domestic producers may be forced out of business.
 - D. Certain goods, such as armaments, which are needed for national defense should be produced domestically so that we are not dependent on supplies from possible future enemies.
 - E. Resources, such as oil, should be available domestically in case there is a war that cuts off foreign supplies.
- 15.13 When foreign producers sell products in the United States for prices lower than their costs (and lower than their prices in the country that produces them),
- A. domestic consumers benefit, but domestic producers are harmed.
 - B. domestic consumers and producers are harmed.
 - C. domestic consumers and producers benefit.
 - D. domestic consumers are harmed, but there is no impact on domestic producers.
 - E. domestic consumers are harmed, but domestic producers actually benefit.
- 15.14 When a foreign producer sells its products in the United States at prices lower than its costs (and lower than its prices in its home country),
- A. the United States economy is harmed, overall.
 - B. a foreign monopoly is almost always created, even if the foreign producer has higher costs of production than domestic producers do.
 - C. the United States economy can still benefit, overall, by importing the goods that are sold more cheaply by foreign producers rather than relying on more costly domestic producers.
 - D. domestic producers are driven out of the market, and the foreign producer is thus free to raise its prices back up as high as it desires.
 - E. other foreign suppliers will not be able to offer an alternative should the producer attempt to monopolize the U. S. market.
- 15.15 Which of the following is the most probable reason that countries do impose restrictions on imports?
- A. Trade restrictions greatly benefit a small group of domestic producers, but the costs to the rest of society are difficult to identify and spread over a large number of people.
 - B. Trade restrictions impose small costs on a few people, but great benefits to many people.
 - C. The law of comparative advantage only works if trade restrictions are imposed on those who have a comparative advantage in other countries.
 - D. Trade restrictions create economic efficiency, and politicians thus have an incentive to impose them.
 - E. Most economists believe that trade restrictions benefit the economy more than they harm it.
- 15.16 When the currency of the country of Kittopia “appreciates,”
- A. the price of Kittopia’s currency in terms of other countries’ money has gone up.
 - B. the value of Kittopia’s currency has gone down in terms of other countries’ money.
 - C. exports of Kittopia will appear cheaper to consumers in other countries.
 - D. exports of Kittopia will tend to increase.
 - E. products of other countries will appear more expensive to consumers in Kittopia.

- 15.17 If the currency of the country of Copperland depreciates,
- A. the price of Copperland's currency in terms of other countries' money has gone up.
 - B. the value of other countries' money has gone down in terms of Copperland's currency.
 - C. exports of Copperland will appear cheaper to consumers in other countries.
 - D. exports of Copperland will tend to decrease.
 - E. products of other countries will appear less expensive to consumers in Copperland.
- 15.18 Suppose that the dollar rises in value from 125 yen to 150 yen. As a result,
- A. exports to Japan are likely to increase.
 - B. Japanese tourists will be more likely to visit the U.S.
 - C. U.S. businesses will be less likely to use Japanese shipping lines to transport their products.
 - D. U.S. consumers will be more likely to buy imported Japanese cars.
 - E. none of the above will occur, since Americans buy Japanese goods using dollars, and Japanese consumers buy U.S. goods using Yen.
- 15.19 If the exchange rate value of the English pound goes from \$1.75 to \$1.50, the pound has
- A. appreciated, and the English will find U.S. goods cheaper.
 - B. appreciated, and the English will find U.S. goods more expensive.
 - C. depreciated, and the English will find U.S. goods cheaper.
 - D. depreciated, and the English will find U.S. goods more expensive.
 - E. appreciated, and the Americans will find English goods more expensive.
- 15.20 U.S. tourists spending the summer in Mexico will
- A. create a demand for dollars and a supply of Mexican Pesos.
 - B. have no effect on the international currency exchange rates.
 - C. cause the U.S. dollar to appreciate.
 - D. cause the Mexican Peso to depreciate.
 - E. create a demand for Mexican Pesos and a supply of U.S. dollars.
- 15.21 Which of the following will be most likely to cause a nation's currency to depreciate?
- A. An increase in the domestic real interest rate.
 - B. An increase in exports, coupled with a decline in imports.
 - C. An increase in the nation's rate of inflation.
 - D. A balance of trade surplus.
 - E. All of the above.
- 15.22 Which of the following is most likely to cause a country's currency to appreciate?
- A. Rapid growth in incomes (relative to other countries).
 - B. A high rate of inflation (compared to other countries).
 - C. Low real interest rates (compared to other countries).
 - D. An increase in exports (relative to imports).
 - E. A large increase in the money supply (relative to other countries).
- 15.23 Which of the following is most likely to cause a country's currency to appreciate?
- A. Rapid growth in incomes (relative to other countries).
 - B. A low rate of inflation (compared to other countries).
 - C. Low real interest rates (compared to other countries).
 - D. A decrease in exports (relative to imports).
 - E. A large increase in the money supply (relative to other countries).

- 15.24 Which of the following is most likely to cause a country's currency to appreciate?
- A. Rapid growth in incomes (relative to other countries).
 - B. A high rate of inflation (compared to other countries).
 - C. High real interest rates (compared to other countries).
 - D. An increase in imports (relative to exports).
 - E. A large increase in the money supply (relative to other countries).
- 15.25 Which of the following is most likely to cause a country's currency to appreciate?
- A. Slow growth in incomes (relative to other countries).
 - B. A high rate of inflation (compared to other countries).
 - C. Low real interest rates (compared to other countries).
 - D. An increase in imports (relative to exports).
 - E. A large increase in the money supply (relative to other countries).
- 15.26 Which of the following is a true statement?
- A. The U.S. current account (trade) deficit is a financial obligation that must be paid by the federal government.
 - B. The U.S. balance of payments (trade) deficit is an obligation that must be paid by the federal government.
 - C. A nation cannot run a current account (trade) deficit over a long period of time.
 - D. A country with poor domestic investment opportunities and a high savings rate will tend to run a current account (trade) deficit.
 - E. A country with highly attractive domestic investment opportunities and a low saving rate will tend to run a current account (trade) deficit.
- 15.27 Suppose that the dollar rises in value from 125 yen to 150 yen. As a result,
- A. exports to Japan are likely to increase.
 - B. Japanese tourists will be more likely to visit the U.S.
 - C. U.S. businesses will be less likely to use Japanese shipping lines to transport their products.
 - D. U.S. consumers will be more likely to buy imported Japanese cars.
 - E. none of the above will occur, since Americans buy Japanese goods using dollars, and Japanese consumers buy U.S. goods using Yen.
- 15.28 If a nation is running a trade deficit (also called a current-account deficit),
- A. the debt accumulated must be paid by the nation's government.
 - B. the nation's export of goods and services exceeds its imports.
 - C. the nation is also probably running a capital account deficit as well.
 - D. the nation's import of goods and services exceeds its exports.
 - E. the nation probably has few attractive investment opportunities compared to other countries.
- 15.29 Which of the following is the most likely effect of an unanticipated expansionary monetary policy?
- A. The value of the currency will rise, capital will flow into the country, and trade will shift towards a deficit.
 - B. The value of the currency will fall, capital will flow out of the country, and trade will shift towards a deficit.
 - C. The value of the currency will fall, capital will flow out of the country, and trade will shift towards a surplus.
 - D. The value of the currency will rise, capital will flow out of the country, and trade will shift towards a deficit.
 - E. The value of the currency will rise, capital will flow into the country, and trade will shift towards a surplus.

- 15.30 Which of the following is the most likely effect of an unanticipated restrictive monetary policy?
- A. The value of the currency will rise, capital will flow into the country, and trade will shift towards a deficit.
 - B. The value of the currency will fall, capital will flow out of the country, and trade will shift towards a deficit.
 - C. The value of the currency will fall, capital will flow out of the country, and trade will shift towards a surplus.
 - D. The value of the currency will rise, capital will flow out of the country, and trade will shift towards a deficit.
 - E. The value of the currency will rise, capital will flow into the country, and trade will shift towards a surplus.

Answers

- 15.1 E If each country specializes in producing those goods that it can produce at lower cost, resources can be freed up to make other things (or more desired things), resulting in greater production overall.
- 15.2 E If each country specializes in producing those goods that it can produce at lower cost, resources can be freed up to make other things (or more desired things), resulting in greater production overall.
- 15.3 B If each country imports those goods that it can produce at high cost, resources can be freed up to make other things (that the country is better suited to produce).
- 15.4 A At every price there is a domestic quantity demanded for a good and a domestic quantity supplied. If the price is determined by some force outside the market, such as a price floor, the quantity demanded and quantity supplied might not be equal. If the outside force is the world market's price, the quantity demanded and quantity supplied might similarly not be equal. The shortage that results if the world price is lower than the domestic price is the amount of good that will be imported to satisfy the demand.
- 15.5 B In effect, international trade tends to equalize the prices of goods, so that every country has similar prices. If the domestic price of a good starts out higher than the international price, that good will be imported, and the additional supply from foreign producers will push the good's price down. If the domestic price of a particular good starts out lower than the international price, that good will be exported, and the foreign demand will tend to move its price upward.
- 15.6 D A tariff is a tax on imported goods.
- 15.7 C Tariffs (taxes) on imported goods will reduce both imports and exports. By making the prices of the imported goods higher, the tariff reduces quantity demanded of the good overall. True, more of that quantity demanded will now be satisfied by (more expensive) domestically produced goods rather than imports. However, the total demand will not change, and so the higher price will reduce total quantity demanded. A secondary effect of a tariff is that fewer purchases from other countries will give the people of those countries less income and fewer dollars with which to buy goods that we export. Thus, a tax on imports reduces both imports and exports.
- 15.8 E Tariffs (taxes) on imported goods will reduce both imports and exports. By making the prices of the imported goods higher, the tariff reduces quantity demanded of the good overall. True, more of that quantity demanded will now be satisfied by (more expensive) domestically produced goods rather than imports. However, the total demand will not change, and so the higher price will reduce total quantity demanded.
- 15.9 B Tariffs (taxes) on imported goods will reduce both imports and exports. By making the prices of the imported goods higher, the tariff reduces quantity demanded of the good overall. True, more of that quantity demanded will now be satisfied by (more expensive) domestically produced goods rather than imports. However, the total demand will not change, and so the higher price will reduce total quantity demanded.
- 15.10 C Tariffs (taxes) on an item will make the price of the item higher by reducing the imported supply, and thus reducing the item's supply overall. This will mean higher costs and lower production of any other goods that might be made using that item. The number of people affected in the secondary way is probably much greater than those few domestic suppliers who benefit from decreased competition from imports.
- 15.11 C Tariffs, being taxes, are a source of revenue for government. Quotas restrict imports, but the government does not directly collect revenues from the imposition of quotas.
- 15.12 A Trade restrictions raise the prices of imported products and their domestically produced alternatives. Also, trade restrictions raise the prices of imported resources that might be used to make domestically produced goods, thus raising the prices of those goods as well. Such greater prices and reduced opportunities for purchase and consumption, tend to lower the standard of living. Also, since producers are prevented from producing those goods in which they have a comparative advantage (and instead produce goods for which they do not have a comparative advantage), even domestic employment may be reduced.
- 15.13 A The practice of "dumping" foreign goods into the domestic market at prices lower than cost is beneficial

to consumers of imported goods, but may harm domestic producers who cannot compete with the low prices. In the short run, prices will be below cost for the domestic producers, and so they will lose profits in the short run. However, if domestic producers are able to "wait out" the period of time in which prices are low, they may be better off in the long run than their foreign competitors who did the dumping. This is because the foreign "dumpers" have to produce output and sell it below cost (losing money) while the domestic firms might be able to just sit by, engage in research into future products, or otherwise do things that lose less money than making output and selling below cost.

- 15.14 C Dumping amounts to a gift of output, given to domestic consumers. There still is great benefit in purchasing things from other countries that those other countries can make at lower cost, no matter why the cost is lower.
- 15.15 A Trade restrictions help a few domestic producers who probably know who they are and how they are being helped. The large number of domestic consumers and producers of other goods who are harmed by the restrictions may not know how much they are harmed, and the loss in utility is spread over many consumers and producers.
- 15.16 A When a currency appreciates, its price is going up compared to other currencies. That will make its goods seem more expensive (reducing demand for them internationally) and tend to decrease the country's exports due to the higher apparent prices of its goods.
- 15.17 C When a currency depreciates, its price is going down compared to other currencies. That will make its goods seem less expensive (increasing demand for them internationally) and tend to increase the country's exports due to the lower apparent prices of its goods.
- 15.18 D When the dollar appreciates, its price is going up compared to other currencies, and other currencies are going down in price compared to the dollar. That will make other countries' goods seem less expensive (increasing demand for them in the U.S.) and tend to increase U.S. imports due to the lower apparent prices of imported goods.
- 15.19 D When the pound's price is going down, it is depreciating. That means that the dollar is appreciating, so it takes more pounds to buy a dollar, and thus more pounds to buy a dollar's worth of U.S. goods.
- 15.20 E U.S. tourists create a supply of dollars and a demand for pesos, as they try to sell dollars and buy pesos.
- 15.21 C When a currency depreciates, its price is going down compared to other currencies, and it costs less of the other countries' money to buy it. This could occur because of an increase in the supply of the depreciating currency or a decrease in demand for that currency. Inflation is due to an increase in money supply, so it is likely to also increase supply of the currency in the foreign exchange market.
- 15.22 D When a currency appreciates, its price is going up compared to other currencies, and it costs more of the other countries' money to buy it. This could occur because of a decrease in the supply of the appreciating currency or an increase in demand for that currency. A sudden increase in the exports of country A would mean that people in other countries want to buy the goods of country A, and thus will buy the currency of country A to do so. This would be an increase in demand for country A's currency.
- 15.23 B When a currency appreciates, its price is going up compared to other currencies, and it costs more of the other countries' money to buy it. This could occur because of a decrease in the supply of the appreciating currency or an increase in demand for that currency. Inflation is due to an increase in money supply, so if inflation is low or falling, it is likely due to a lower money supply domestically, which is likely to also result in lower supply in the foreign exchange market.
- 15.24 C When a currency appreciates, its price is going up compared to other currencies, and it costs more of the other countries' money to buy it. This could occur because of a decrease in the supply of the appreciating currency or an increase in demand for that currency. A high real interest rate will attract foreign investors, who will need to buy the country's currency in order to have the right currency to make investments. Thus, the demand for the country's currency is likely to go up if it has a high real interest rate.
- 15.25 A When a currency appreciates, its price is going up compared to other currencies, and it costs more of the other countries' money to buy it. This could occur because of a decrease in the supply of the appreciating currency or an increase in demand for that currency. Slow growth of incomes will usually

mean that the country's consumers don't have the cash to buy many items, including imports. A lower demand for imports will lower the supply of currency in the foreign exchange market, since consumers have little reason to sell their currency to buy currencies from other countries.

- 15.26 E A current account deficit or trade deficit or balance of payments deficit simply means that more money is leaving the country to buy imported goods than is coming into the country to pay for exported goods. However, the flow of money out must be matched by an equal flow of money into the country. Since the country is not exporting a lot of goods to other countries, the funds going into the country must be going towards investment. If people in other parts of the world are buying bonds and other investments in a particular country (so more money is coming into the country to buy financial and capital items than is leaving the country to do so) the country is said to have a capital account surplus.
- 15.27 B When the Yen appreciates, the dollar depreciates. That means it takes fewer yen to buy each dollar, and thus it costs fewer yen to buy things from the U.S. or travel in the U.S.
- 15.28 D A current account deficit or trade deficit means more money is leaving the country to buy imported goods than is coming into the country to pay for exported goods. However, the flow of money out must be matched by an equal flow of money into the country. Since the country is not exporting a lot of goods to other countries, the funds going into the country must be going towards investment.
- 15.29 C Unanticipated monetary expansion will create some inflation and increase the supply of the currency on the foreign exchange market. This will lower the value of the currency. It will also reduce real interest rates in the short run, thus lowering the demand of the currency. Since investments in the country are not as attractive, capital (investment money) will leave the country, creating a capital account deficit. Goods in the country will look more attractive to foreign buyers (because of the low value of the currency), so exports will increase, moving the balance of trade to a surplus.
- 15.30 A Restrictive monetary policy will increase real interest rates in the short run. This will increase the value of the currency, since people in other countries will want to make investments in the country, thus increasing the demand of the currency. Since investments in the country are more attractive, capital (investment money) will flow into the country, creating a capital account surplus. Goods in the country will look less attractive to foreign buyers (because of the high value of the currency), so exports will decrease, moving the balance of trade to a deficit.