

CHAPTER 2: Model Building and Gains from Trade

MULTIPLE CHOICE

1. An economist's use of experiments and real-world data to test a theory is an example of
- the scientific method in economics.
 - macroeconomics.
 - economic growth.
 - normative analysis.
 - comparative advantage.

ANS: A DIF: Easy REF: The Scientific Method in Economics
OBJ: 2.1 How do economists study the economy? MSC: Understanding

2. On the television show *MythBusters*, the hosts design experiments, collect data, and test theories based on popular myths. This is an example of
- the scientific method.
 - economic growth.
 - gains from trade.
 - production possibilities.
 - absolute advantage.

ANS: A DIF: Easy REF: The Scientific Method in Economics
OBJ: 2.1 How do economists study the economy? MSC: Remembering

3. Economists use the scientific method and the tools of economics to study
- only the decisions of individuals.
 - only the decisions of business firms.
 - only economic growth and gross domestic product (GDP).
 - only the production possibilities curve.
 - anything around them; the world is the economist's laboratory.

ANS: E DIF: Easy REF: The Scientific Method in Economics
OBJ: 2.1 How do economists study the economy? MSC: Remembering

4. The scientific method and the tools of economics are useful in examining
- only how individuals make decisions.
 - only how business firms make decisions.
 - only how government policies affect macroeconomic outcomes.
 - only the trade-offs evident in the production possibilities frontier (PPF).
 - anything; economists will use their tools to study anything in the world around them.

ANS: E DIF: Easy REF: The Scientific Method in Economics
OBJ: 2.1 How do economists study the economy? MSC: Remembering

5. A positive statement
- is a claim that can be tested.
 - is a statement about what ought to be.
 - is a declaration of opinion.
 - is a claim that cannot be tested.
 - cannot be evaluated using the scientific method.

ANS: A DIF: Easy REF: Positive and Normative Analysis
OBJ: 2.1 How do economists study the economy? MSC: Remembering

6. Which of the following is a positive statement?
- An economist should test every theory at least twice.
 - Increases in the minimum wage cause unemployment.

OBJ: 2.1 How do economists study the economy? MSC: Applying

12. Which of the following is a normative statement?
- The current exchange rate is 0.7 British pounds per U.S. dollar.
 - In January, the average temperature in Fargo, North Dakota, is 56 degrees.
 - Winters in Arkansas are too cold.
 - On average, people save 15 percent when they switch to GEICO.
 - University of Virginia graduates earn more than Duke University graduates.

ANS: C DIF: Easy REF: Positive and Normative Analysis
OBJ: 2.1 How do economists study the economy? MSC: Applying

13. The important act of holding all other variables constant while examining a particular variable is known as
- endogeneity.
 - a normative statement.
 - a positive statement.
 - macroeconomics.
 - ceteris paribus*.

ANS: E DIF: Easy REF: Economic Models
OBJ: 2.1 How do economists study the economy? MSC: Remembering

14. *Ceteris paribus* means
- in sets of two.
 - constant opportunity cost.
 - other things being equal.
 - buyer beware.
 - there is no reason to argue about people's tastes.

ANS: C DIF: Easy REF: Economic Models
OBJ: 2.1 How do economists study the economy? MSC: Remembering

15. Which of the following is necessary to build a good economic model?
- normative statements
 - assumptions
 - opinions
 - complex math
 - realism

ANS: B DIF: Moderate REF: Economic Models
OBJ: 2.1 How do economists study the economy? MSC: Remembering

16. The process of examining a change in one variable in a model while assuming that all the other variables remain constant is called
- exogenous factors.
 - ceteris paribus*.
 - normative analysis.
 - positive analysis.
 - faulty assumptions.

ANS: B DIF: Moderate REF: Economic Models
OBJ: 2.1 How do economists study the economy? MSC: Remembering

17. Why do economists use models?
- Models are used to add complexity to a simple world.
 - Models allow us to study a simplified version of a complex world.
 - Models allow us to control exogenous factors.
 - Models make the world harder to understand.
 - Models allow us to examine more factors than what actually exists in our world.

ANS: B DIF: Easy REF: Economic Models

OBJ: 2.1 How do economists study the economy? MSC: Remembering

18. Variables that are NOT accounted for in a model are called
- endogenous factors.
 - exogenous factors.
 - normative statements.
 - positive statements.
 - the scientific method.

ANS: B DIF: Moderate REF: Economic Models

OBJ: 2.1 How do economists study the economy? MSC: Understanding

19. Variables that are controlled for in a model are called
- normative statements.
 - positive statements.
 - endogenous factors.
 - exogenous factors.
 - the scientific method.

ANS: C DIF: Easy REF: Economic Models

OBJ: 2.1 How do economists study the economy? MSC: Remembering

20. Nadine is considering the “dress well, test well” theory, which argues that one performs better on exams when one dresses nicer than one does when wearing sweatpants. If Nadine wants to test this theory over the course of the semester, which of the following would be an endogenous factor in her experiment?
- her innate ability in the subject
 - the difficulty of the exam
 - the relative mix of multiple-choice and short-answer questions
 - her clothing choice for the exam
 - the amount of time Nadine spends studying for the exam

ANS: D DIF: Moderate REF: Economic Models

OBJ: 2.1 How do economists study the economy? MSC: Applying

21. When testing a paper airplane on a campus quad, which of the following would be an exogenous factor?
- the weight of the paper used in making the plane
 - the ratio of wingspan to plane length
 - the height of the body of the plane
 - the level of wind encountered
 - the number of folds in the wings

ANS: D DIF: Moderate REF: Economic Models

OBJ: 2.1 How do economists study the economy? MSC: Applying

22. When testing a model rocket on a campus quad, which of the following would be an endogenous factor?
- the current wind speed across the quad
 - the quad’s elevation and air pressure
 - the extent of precipitation
 - the gravitational pull of Earth
 - the size of the rocket engine

ANS: E DIF: Moderate REF: Economic Models

OBJ: 2.1 How do economists study the economy? MSC: Applying

23. Car companies build wind tunnels to test the aerodynamics and the handling capabilities of their car designs. The many variables that can be precisely controlled inside the wind tunnel are considered _____ factors.
- a. normative
 - b. positive
 - c. comparative
 - d. endogenous
 - e. exogenous

ANS: D DIF: Moderate REF: Economic Models
OBJ: 2.1 How do economists study the economy? MSC: Applying

24. One reason that economists make assumptions when designing models is to
- a. exclude variables that do not add predictive power to the model.
 - b. make models more like the real world.
 - c. make models more complex.
 - d. increase endogenous factors.
 - e. ensure that all possible factors are included.

ANS: A DIF: Difficult REF: Economic Models
OBJ: 2.1 How do economists study the economy? MSC: Understanding

25. A model without any simplifying assumptions
- a. is highly complex and likely unworkable.
 - b. excludes important predictive variables.
 - c. is very helpful for solving tough, real-world problems.
 - d. does not look like the real-world problem it is meant to address.
 - e. provides simplified solutions to complex problems.

ANS: A DIF: Difficult REF: Economic Models
OBJ: 2.1 How do economists study the economy? MSC: Understanding

26. The production possibilities frontier (PPF) shows
- a. the trade-off between the efficient production of two different goods.
 - b. the difference between microanalysis and macroanalysis.
 - c. the difference between normative and positive analysis.
 - d. how a firm should price a new product.
 - e. how price and quantity are related for a single good.

ANS: A DIF: Easy REF: What Is a Production Possibilities Frontier?
OBJ: 2.2 What is a production possibilities frontier? MSC: Understanding

27. A graph that shows the maximum attainable combinations of two goods when society efficiently uses its productive resources is called
- a. a production possibilities frontier (PPF).
 - b. a supply curve.
 - c. opportunity cost.
 - d. a consumer demand curve.
 - e. absolute advantage.

ANS: A DIF: Easy REF: What Is a Production Possibilities Frontier?
OBJ: 2.2 What is a production possibilities frontier? MSC: Understanding

28. At full employment, a society produces
- a. somewhere within its production possibilities frontier (PPF).
 - b. somewhere outside its PPF.
 - c. at the origin on its PPF graph.

- d. on its PPF.
- e. only one good.

ANS: D DIF: Easy REF: What Is a Production Possibilities Frontier?
OBJ: 2.2 What is a production possibilities frontier? MSC: Understanding

29. The _____ illustrates the various combinations of output that a society can produce if all of its resources are being used efficiently.
- a. concept of absolute advantage
 - b. law of positive statements
 - c. law of demand
 - d. production possibilities frontier (PPF)
 - e. principle of comparative advantage

ANS: D DIF: Easy REF: What Is a Production Possibilities Frontier?
OBJ: 2.4 What is the trade-off between having more now and having more later?
MSC: Understanding

30. The area inside (within) the production possibilities frontier (PPF) contains _____ points.
- a. normative
 - b. positive
 - c. efficient
 - d. inefficient
 - e. high opportunity cost

ANS: D DIF: Easy REF: What Is a Production Possibilities Frontier?
OBJ: 2.4 What is the trade-off between having more now and having more later?
MSC: Understanding

31. *Ceteris paribus*, if a society is producing at a point on the production possibilities frontier (PPF), it can only increase the production of one good by
- a. also increasing the production of the second good.
 - b. decreasing the production of the second good.
 - c. increasing the price of the second good.
 - d. decreasing the price of the second good.
 - e. reducing the resources available for production.

ANS: B DIF: Moderate REF: What Is a Production Possibilities Frontier?
OBJ: 2.2 What is a production possibilities frontier? MSC: Understanding

32. A society that is producing its maximum combination of goods and using all available resources for production
- a. has minimized its opportunity cost.
 - b. has maximized its opportunity cost.
 - c. is operating on its production possibilities frontier (PPF).
 - d. is operating outside its PPF.
 - e. has eliminated scarcity.

ANS: C DIF: Moderate REF: What Is a Production Possibilities Frontier?
OBJ: 2.2 What is a production possibilities frontier? MSC: Understanding

33. On a production possibilities frontier (PPF) that shows the trade-off between consumer goods and capital goods given a fixed amount of labor, unemployment is illustrated by
- a. movement from a point within the frontier to a point on the frontier.
 - b. a point outside the frontier.
 - c. a point within the frontier.
 - d. movement from a point on the frontier to another point on the frontier.

e. a point on the frontier.

ANS: C DIF: Moderate REF: What Is a Production Possibilities Frontier?
OBJ: 2.2 What is a production possibilities frontier? MSC: Understanding

34. How will a reduction in the national unemployment rate affect a nation's production possibilities frontier (PPF)?
- It will cause the PPF to shift inward.
 - It will cause the PPF to shift outward.
 - It will move society to a point inward, to a point farther away from the PPF.
 - It will move society outward, to a point closer to or on the PPF.
 - It will push society to a point outside its PPF.

ANS: D DIF: Moderate REF: What Is a Production Possibilities Frontier?
OBJ: 2.2 What is a production possibilities frontier? MSC: Understanding

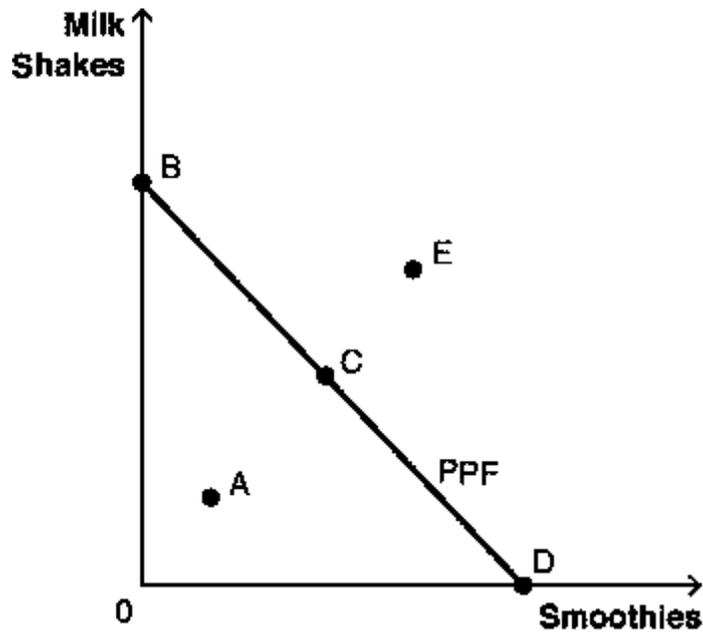
35. Think of the production possibilities frontier (PPF) model. When society is producing the largest possible output from its resources, it is operating
- inefficiently.
 - efficiently.
 - with no opportunity cost.
 - inside (within) the PPF.
 - beyond its opportunity cost.

ANS: B DIF: Moderate REF: What Is a Production Possibilities Frontier?
OBJ: 2.2 What is a production possibilities frontier? MSC: Understanding

36. Which of the following is NOT an assumption that economists make when developing a production possibilities frontier (PPF)?
- We live in a world with only two goods.
 - There are no increases in technology.
 - There is no change in available resources.
 - Society will always be producing somewhere on the PPF.
 - There are no decreases in technology.

ANS: D DIF: Difficult REF: What Is a Production Possibilities Frontier?
OBJ: 2.2 What is a production possibilities frontier? MSC: Understanding

Refer to the following figure to answer the following questions.



37. Which point in the corresponding figure represents a combination of smoothies and milk shakes that society CANNOT currently produce?
- a. point A
 - b. point B
 - c. point C
 - d. point D
 - e. point E

ANS: E DIF: Easy REF: What Is a Production Possibilities Frontier?
 OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

38. Which point in the corresponding figure shows that productive resources are NOT fully employed?
- a. point A
 - b. point B
 - c. point C
 - d. point D
 - e. point E

ANS: A DIF: Easy REF: What Is a Production Possibilities Frontier?
 OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

39. In the figure, point A is
- a. an efficient point.
 - b. unattainable with current resources.
 - c. an inefficient point.
 - d. the equilibrium.
 - e. the point where society would prefer to consume.

ANS: C DIF: Easy REF: What Is a Production Possibilities Frontier?
 OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

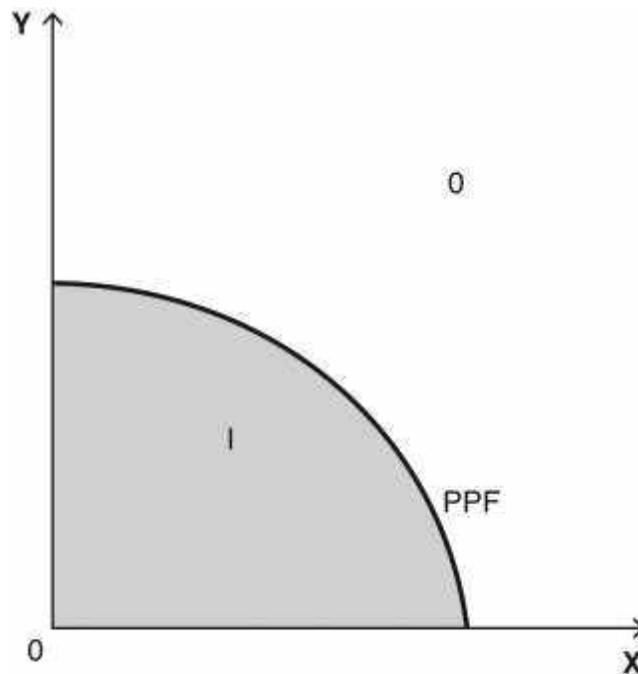
40. In the figure, point E is
- a. an efficient point.
 - b. unattainable with current resources.
 - c. an inefficient point.
 - d. the equilibrium.
 - e. evidence that trade does not enrich society.

ANS: B DIF: Easy REF: What Is a Production Possibilities Frontier?
OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

41. Which statement best describes the opportunity cost evident in the production possibilities frontier (PPF) for the accompanying figure?
- The law of increasing relative cost applies because the PPF is a straight line.
 - The law of increasing relative cost applies because the PPF is bowed outward.
 - The opportunity cost is constant because the PPF is a straight line.
 - The opportunity cost is constant because the PPF is bowed outward.
 - The opportunity cost decreases because the line has negative slope.

ANS: C DIF: Moderate
REF: The Production Possibilities Frontier and Opportunity Cost
OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

Consider the production possibilities frontier (PPF) shown in the figure below to answer the following questions.



42. Given current resources and technology, the attainable range is best described as
- only area O: points outside the PPF.
 - points on the PPF only.
 - only area I: points inside the PPF.
 - area I: points inside the PPF and points on the PPF.
 - area O: points outside the PPF and points on the PPF.

ANS: D DIF: Moderate REF: What Is a Production Possibilities Frontier?
OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

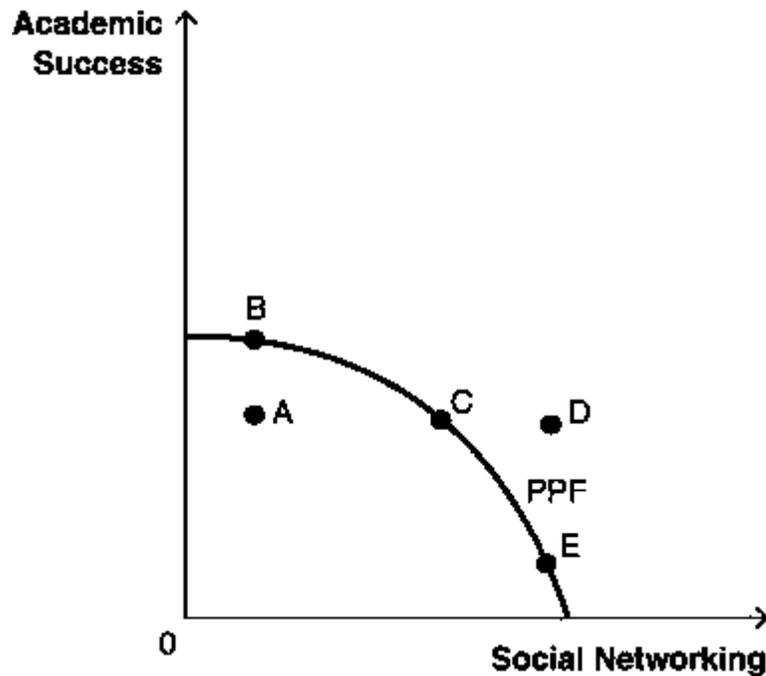
43. The set of efficient points is best described as
- only area O: points outside the PPF.
 - points on the PPF only.
 - only area I: points inside the PPF.
 - area I: inside the PPF and points on the PPF.
 - area O: outside the PPF and points on the PPF.

ANS: B DIF: Moderate REF: What Is a Production Possibilities Frontier?
OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

44. Given current resources and technology, the unattainable range is best described as
- only area O: points outside the PPF.
 - points on the PPF only.
 - only area I: points inside the PPF.
 - area I: inside the PPF and points on the PPF.
 - area O: outside the PPF and points on the PPF.

ANS: A DIF: Moderate REF: What Is a Production Possibilities Frontier?
OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

Refer to the accompanying figure to answer the following questions.



45. How is opportunity cost illustrated?
- a move from point A to point B
 - a move from point A to point C
 - a move from point C to point D
 - a move from point B to point C
 - a move from point D to point E

ANS: D DIF: Moderate
REF: The Production Possibilities Frontier and Opportunity Cost
OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

46. The inefficient point(s) is/are
- point A.
 - points C and D.
 - point C.
 - point D.
 - points B, C, and E.

ANS: A DIF: Easy REF: What Is a Production Possibilities Frontier?
OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

47. Unemployed resources are evident at
- a. point A.
 - b. point B.
 - c. point C.
 - d. point D.
 - e. points B, C, and E.

ANS: A DIF: Easy REF: What Is a Production Possibilities Frontier?
OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

48. Given the current resources, one would need even more hours in each day in order to attain
- a. point A.
 - b. point B.
 - c. point C.
 - d. point D.
 - e. point E.

ANS: D DIF: Easy REF: What Is a Production Possibilities Frontier?
OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

49. The _____ states that the opportunity cost of producing a good always rises as one produces more of it.
- a. law of increasing relative cost
 - b. law of positive economics
 - c. law of demand
 - d. production possibilities frontier (PPF) model
 - e. zero-sum game

ANS: A DIF: Easy
REF: The Production Possibilities Frontier and Opportunity Cost
OBJ: 2.2 What is a production possibilities frontier? MSC: Remembering

50. When the opportunity cost of producing a good rises as someone produces more of it, one experiences
- a. normative economics.
 - b. increasing relative costs.
 - c. downward-sloping demand.
 - d. inferior goods.
 - e. increasing marginal utility.

ANS: B DIF: Easy
REF: The Production Possibilities Frontier and Opportunity Cost
OBJ: 2.2 What is a production possibilities frontier? MSC: Remembering

51. As we move from one efficient point on the production possibilities frontier (PPF) to another efficient point on the PPF, we experience
- a. decreasing relative cost.
 - b. opportunity cost.
 - c. macroeconomics.
 - d. unlimited resources.
 - e. unattainable combinations.

ANS: B DIF: Moderate
REF: The Production Possibilities Frontier and Opportunity Cost
OBJ: 2.2 What is a production possibilities frontier? MSC: Remembering

52. Suppose someone is studying a production possibilities frontier (PPF) that has a bowed-out shape relative to the origin. What causes this shape?
- a. economic growth
 - b. the law of increasing relative cost
 - c. absolute advantage
 - d. normative economics
 - e. more resources

ANS: B DIF: Difficult
REF: The Production Possibilities Frontier and Opportunity Cost

OBJ: 2.2 What is a production possibilities frontier? MSC: Understanding

53. Opportunity cost is evident on the production possibilities frontier (PPF) graph
- as we move from one point on the frontier to another point on the frontier.
 - as we move from the origin to any inefficient point.
 - as we move from one unattainable point to an efficient point on the frontier.
 - as we move from an inefficient point to the origin.
 - at any one single point on the graph.

ANS: A DIF: Difficult

REF: The Production Possibilities Frontier and Opportunity Cost

OBJ: 2.2 What is a production possibilities frontier? MSC: Understanding

54. Suppose someone finds a production possibilities frontier (PPF) that is shaped like a straight line. What can one determine about the production of the two goods?
- Production of the two goods is subject to decreasing relative cost.
 - Production of the two goods is subject to increasing relative cost.
 - Production of the two goods is subject to constant opportunity cost anywhere along the PPF.
 - One producer must have an absolute advantage in production.
 - More resources will not cause the PPF to shift.

ANS: C DIF: Difficult

REF: The Production Possibilities Frontier and Opportunity Cost

OBJ: 2.2 What is a production possibilities frontier? MSC: Understanding

55. The movie *Saving Private Ryan* is about a military mission to find and recover a particular soldier—Private Ryan. The movie is predominantly about how much was given up in an effort to save this one particular soldier. The main economic theme of the movie is
- absolute advantage.
 - opportunity cost.
 - normative analysis.
 - comparative advantage.
 - positive advantage.

ANS: B DIF: Moderate

REF: The Production Possibilities Frontier and Opportunity Cost

OBJ: 2.2 What is a production possibilities frontier? MSC: Understanding

Mikhail and Stefan are both artists who can create sculptures or paintings each day. The following table describes their maximum outputs per day. Use this table to answer the following questions.

	Sculptures	Paintings
Mikhail	10	5
Stefan	6	2

56. What is Mikhail's opportunity cost of a sculpture?
- 2 paintings
 - 1/2 painting
 - 3 paintings
 - 1/3 sculpture
 - 1/2 sculpture

ANS: B DIF: Moderate

REF: The Production Possibilities Frontier and Opportunity Cost

OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

57. What is Stefan's opportunity cost of a sculpture?

- a. 1/2 painting
- b. 1/3 painting
- c. 3 paintings
- d. 1/3 sculpture
- e. 3/5 sculpture

ANS: B DIF: Moderate

REF: The Production Possibilities Frontier and Opportunity Cost

OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

58. What is Mikhail's opportunity cost of a painting?
- a. 1/2 painting
 - b. 1/2 sculpture
 - c. 3 paintings
 - d. 2 sculptures
 - e. 2 paintings

ANS: D DIF: Moderate

REF: The Production Possibilities Frontier and Opportunity Cost

OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

59. What is Stefan's opportunity cost of a painting?
- a. 1/3 painting
 - b. 1/3 sculpture
 - c. 2/5 sculpture
 - d. 3 paintings
 - e. 3 sculptures

ANS: E DIF: Moderate

REF: The Production Possibilities Frontier and Opportunity Cost

OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

60. Based on the table, does Mikhail or Stefan have an absolute advantage?
- a. Yes, Mikhail has an absolute advantage in both sculptures and paintings.
 - b. Yes, Stefan has an absolute advantage in both sculptures and paintings.
 - c. Yes, Mikhail has an absolute advantage in paintings, and Stefan has an absolute advantage in sculptures.
 - d. Yes, Mikhail has an absolute advantage in sculptures, and Stefan has an absolute advantage in paintings.
 - e. No, neither has an absolute advantage.

ANS: A DIF: Easy REF: Gains from Trade

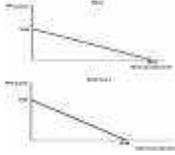
OBJ: 2.3 What are the benefits of specialization and trade? MSC: Analyzing

61. Based on the table, does Mikhail or Stefan have a comparative advantage?
- a. Yes, Mikhail has a comparative advantage in both sculptures and paintings.
 - b. Yes, Stefan has a comparative advantage in both sculptures and paintings.
 - c. Yes, Mikhail has a comparative advantage in paintings, and Stefan has a comparative advantage in sculptures.
 - d. Yes, Mikhail has a comparative advantage in sculptures, and Stefan has a comparative advantage in paintings.
 - e. No, neither has a comparative advantage.

ANS: C DIF: Moderate REF: Comparative Advantage

OBJ: 2.3 What are the benefits of specialization and trade? MSC: Analyzing

The figures below depict the production possibilities frontiers (PPFs) for two people who can allocate the same amount of time between making pizzas and making stromboli. Refer to these figures to answer the following questions.



62. What is Bo's opportunity cost of making 1 pizza?
- a. 50 stromboli
 - b. 20 stromboli
 - c. 2.5 stromboli
 - d. 2 stromboli
 - e. 1.5 stromboli

ANS: D DIF: Moderate

REF: The Production Possibilities Frontier and Opportunity Cost

OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

63. What is Kenzi's opportunity cost of making 1 stromboli?
- a. 30 pizzas
 - b. 20 stromboli
 - c. 2 pizzas
 - d. 1.5 pizzas
 - e. 2/3 pizza

ANS: D DIF: Moderate

REF: The Production Possibilities Frontier and Opportunity Cost

OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

64. What is Bo's opportunity cost of making 1 stromboli?
- a. 1/2 pizza
 - b. 2/3 pizza
 - c. 2 pizzas
 - d. 2 stromboli
 - e. 25 pizzas

ANS: A DIF: Moderate

REF: The Production Possibilities Frontier and Opportunity Cost

OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

65. Which statement best describes the absolute advantage as shown in the graphs?
- a. Kenzi has an absolute advantage in the production of both.
 - b. Bo has an absolute advantage in the production of both.
 - c. Bo has an absolute advantage in the production of pizzas, and Kenzi has an absolute advantage in the production of stromboli.
 - d. Kenzi has an absolute advantage in the production of pizzas, and Bo has an absolute advantage in the production of stromboli.
 - e. They both have an absolute advantage in the production of stromboli.

ANS: D DIF: Moderate REF: Gains from Trade

OBJ: 2.3 What are the benefits of specialization and trade? MSC: Analyzing

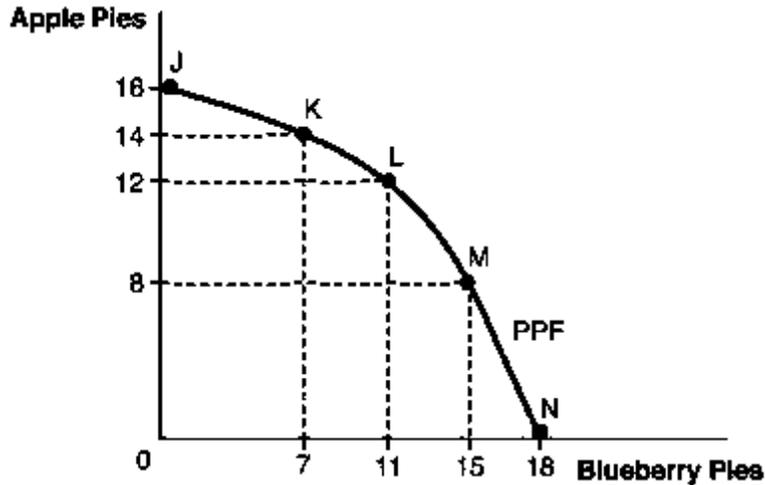
66. Based on the figure, which statement about comparative advantage is true?
- a. Bo has a comparative advantage in the production of stromboli because her opportunity cost is lower.
 - b. Bo has a comparative advantage in the production of stromboli because her opportunity cost is higher.
 - c. Bo has a comparative advantage in the production of pizzas because her opportunity cost is lower.
 - d. Bo has a comparative advantage in the production of pizzas because her opportunity cost is higher.
 - e. Bo has a comparative advantage in the production of both pizzas and stromboli.

ANS: A DIF: Moderate REF: Comparative Advantage
 OBJ: 2.3 What are the benefits of specialization and trade? MSC: Analyzing

67. If Bo and Kenzi were to specialize and trade, at what exchange rate would they find some quantity of trade to be mutually beneficial?
- a. 3 pizzas for 1 stromboli
 - b. 1 pizza for 1 stromboli
 - c. 10 pizzas for 2 stromboli
 - d. 1 pizza for 1/2 stromboli
 - e. 1 pizza for 1/4 stromboli

ANS: B DIF: Difficult REF: Finding the Right Price to Facilitate Trade
 OBJ: 2.3 What are the benefits of specialization and trade? MSC: Analyzing

Refer to the following figure for the following questions.



68. The opportunity cost of increasing the production of apple pies from 12 to 14 pies is _____ pies.
- a. 2 blueberry
 - b. 14 apple
 - c. 7 blueberry
 - d. 4 blueberry
 - e. 2 apple

ANS: D DIF: Moderate
 REF: The Production Possibilities Frontier and Opportunity Cost
 OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

69. The opportunity cost of increasing production of apple pies from 14 to 16 pies is _____ pies.
- a. 2 blueberry
 - b. 14 apple
 - c. 7 blueberry
 - d. 4 blueberry
 - e. 16 blueberry

ANS: C DIF: Moderate
 REF: The Production Possibilities Frontier and Opportunity Cost
 OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

70. The opportunity cost of increasing production of blueberry pies from 7 to 11 pies is _____ pies.
- a. 2 blueberry
 - b. 14 apple
 - c. 7 blueberry
 - d. 4 apple
 - e. 2 apple

ANS: E DIF: Moderate

REF: The Production Possibilities Frontier and Opportunity Cost

OBJ: 2.2 What is a production possibilities frontier?

MSC: Analyzing

71. As we move from points N to M to L, the opportunity cost of additional apple pie
- decreases due to the law of increasing relative cost.
 - increases due to the law of increasing relative cost.
 - decreases due to the law of normative economics.
 - increases due to the law of marginal analysis.
 - decreases due to enhancements in technology.

ANS: B

DIF: Difficult

REF: The Production Possibilities Frontier and Opportunity Cost

OBJ: 2.2 What is a production possibilities frontier?

MSC: Analyzing

72. According to the figure, a new technology that makes it easier to peel, core, and prepare apples will cause
- the entire production possibilities frontier (PPF) to shift outward.
 - the entire production possibilities frontier (PPF) to shift inward.
 - the production possibilities frontier (PPF) to rotate outward to a larger maximum quantity of apple pies with no change in maximum blueberry pies.
 - the production possibilities frontier (PPF) to rotate outward to a larger maximum quantity of blueberry pies with no change in maximum apple pies.
 - the production possibilities frontier (PPF) to stay exactly the same because there is no change in resources.

ANS: C

DIF: Moderate

REF: The Production Possibilities Frontier and Economic Growth

OBJ: 2.2 What is a production possibilities frontier?

MSC: Applying

73. Economic growth can be depicted on a production possibilities frontier (PPF) as an
- inward shift of the PPF.
 - outward shift of the PPF.
 - inward rotation along the x axis.
 - inward rotation along the y axis.
 - increase in opportunity cost.

ANS: B

DIF: Moderate

REF: The Production Possibilities Frontier and Economic Growth

OBJ: 2.2 What is a production possibilities frontier?

MSC: Understanding

74. An increase in general resources that affects the production of both goods on a production possibilities frontier (PPF) would cause an
- inward shift of the PPF.
 - outward shift of the PPF.
 - outward rotation along the x axis.
 - outward rotation along the y axis.
 - increase in opportunity cost.

ANS: B

DIF: Moderate

REF: The Production Possibilities Frontier and Economic Growth

OBJ: 2.2 What is a production possibilities frontier?

MSC: Remembering

75. Economic growth is represented on a production possibilities frontier (PPF) by the PPF
- getting steeper.
 - getting flatter.
 - shifting inward.
 - shifting outward.
 - rotating downward.

ANS: D

DIF: Moderate

REF: The Production Possibilities Frontier and Economic Growth

OBJ: 2.2 What is a production possibilities frontier?

MSC: Understanding

76. An increase in the labor force would be reflected in a society's production possibilities frontier (PPF) by an
- a. increase in opportunity cost.
 - b. inward shift of the PPF.
 - c. outward shift of the PPF.
 - d. outward rotation along the x axis.
 - e. outward rotation along the y axis.

ANS: C DIF: Easy

REF: The Production Possibilities Frontier and Economic Growth

OBJ: 2.2 What is a production possibilities frontier?

MSC: Applying

77. A town on the Gulf Coast is battered by a massive hurricane that destroys most of its productive resources. The community's production possibilities frontier (PPF) would show an
- a. inward shift of the PPF.
 - b. outward shift of the PPF.
 - c. outward rotation along the x axis.
 - d. outward rotation along the y axis.
 - e. increase in opportunity cost.

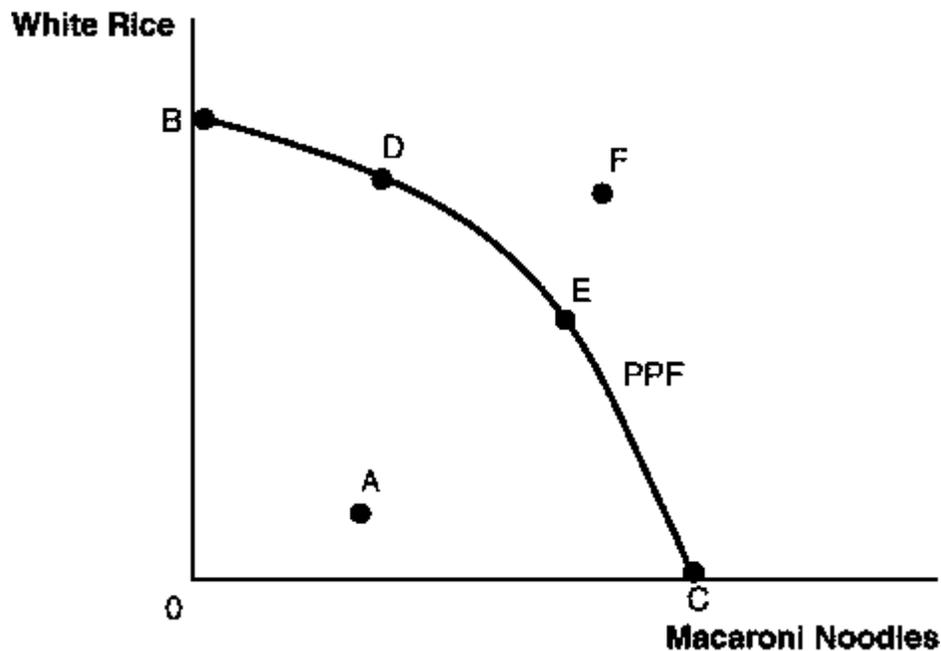
ANS: A DIF: Difficult

REF: The Production Possibilities Frontier and Economic Growth

OBJ: 2.2 What is a production possibilities frontier?

MSC: Applying

Refer to the following figure to answer the following questions.



78. Which of the following represents an inefficient point?
- a. point A
 - b. point B
 - c. point C
 - d. point D
 - e. point F

ANS: A DIF: Easy

REF: What Is a Production Possibilities Frontier?

OBJ: 2.2 What is a production possibilities frontier?

MSC: Analyzing

79. Which of the following represents a point that is unattainable with current resources and technology?
- a. point B
 - d. point E

- b. point C
- c. point D
- e. point F

ANS: E DIF: Easy REF: What Is a Production Possibilities Frontier?
 OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

80. What is the most preferred consumption point for a carbohydrate-loving society?
- a. point B
 - b. point C
 - c. point D
 - d. point E
 - e. point F

ANS: E DIF: Moderate REF: What Is a Production Possibilities Frontier?
 OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

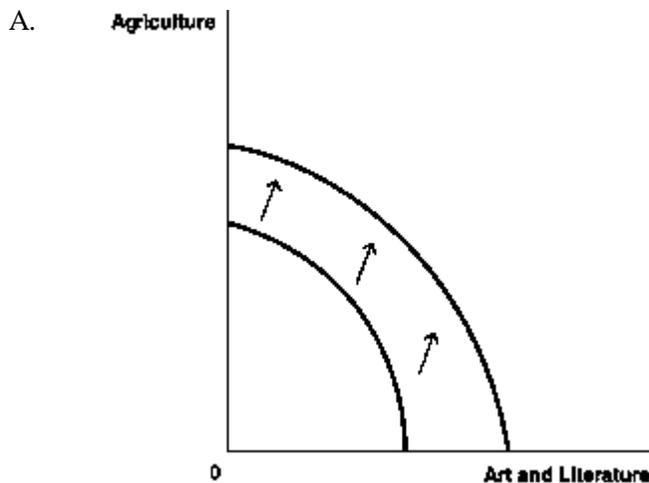
81. We can see that the opportunity cost of moving from point D to point E is different from the opportunity cost of moving from point D to point C because
- a. growing rice requires more water than growing wheat for pasta does.
 - b. the slope of the production possibilities frontier (PPF) is different in each of the two segments.
 - c. they are all efficient points.
 - d. they are all attainable points.
 - e. the opportunity cost is constant along the PPF.

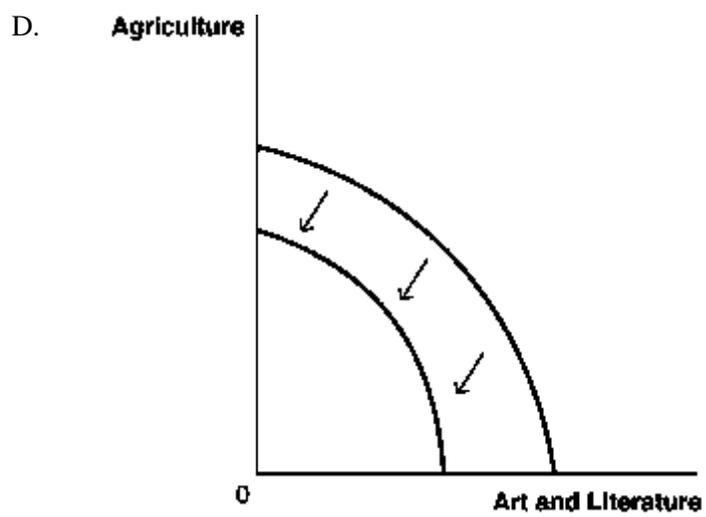
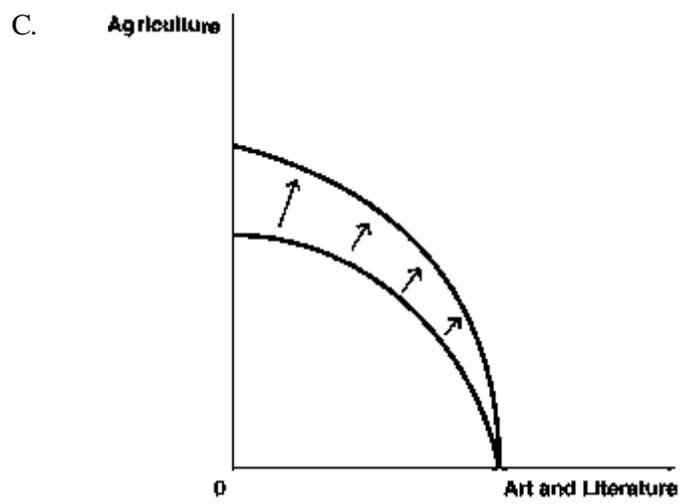
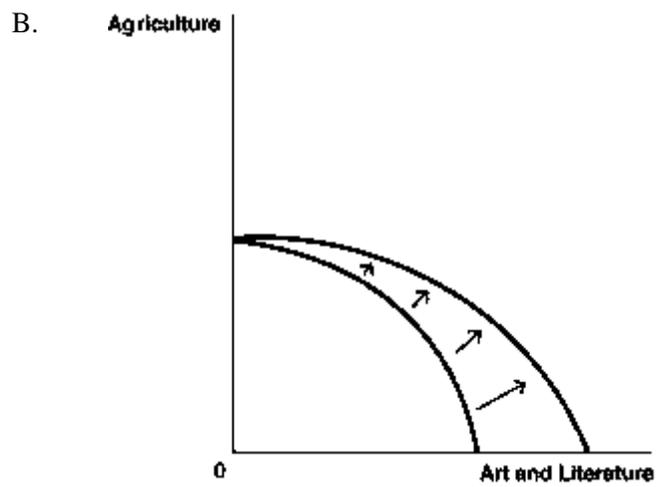
ANS: B DIF: Difficult
 REF: The Production Possibilities Frontier and Opportunity Cost
 OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

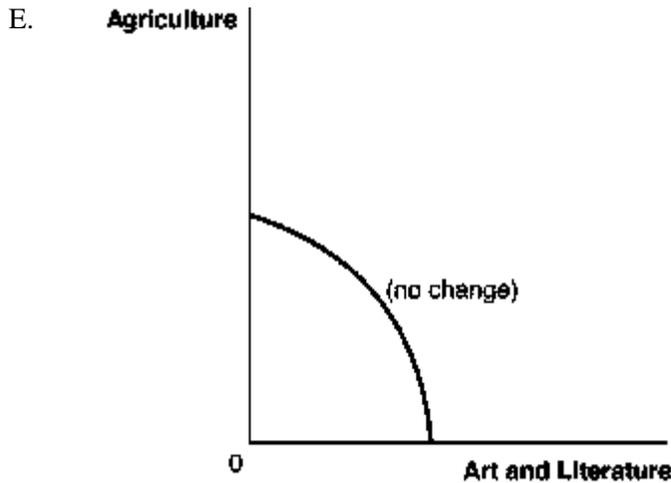
82. This society could reach point F when there is a(n)
- a. increase in the monetary price of white rice.
 - b. credible new study that shows eating pasta reduces the risk of heart attacks.
 - c. new technology that makes the storage and transport of both rice and pasta more efficient.
 - d. new tax on the sale of both rice and pasta.
 - e. increase in the monetary price of macaroni.

ANS: C DIF: Moderate
 REF: The Production Possibilities Frontier and Economic Growth
 OBJ: 2.2 What is a production possibilities frontier? MSC: Applying

Use these production possibilities frontier (PPF) curves, which compare the ancient production of agricultural products to art and literature, to answer the following questions.







83. Suppose a great plague wipes out half of the society's population. Which of the following graphs best depicts how this would affect the PPF?
- | | |
|------------|------------|
| a. Graph A | d. Graph D |
| b. Graph B | e. Graph E |
| c. Graph C | |

ANS: D DIF: Moderate
 REF: The Production Possibilities Frontier and Economic Growth
 OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

84. Suppose the plow is invented and agricultural productivity greatly increases. Which of the following graphs best depicts how this would affect the PPF?
- | | |
|------------|------------|
| a. Graph A | d. Graph D |
| b. Graph B | e. Graph E |
| c. Graph C | |

ANS: C DIF: Moderate
 REF: The Production Possibilities Frontier and Economic Growth
 OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

85. Suppose the printing press is invented. Which graph best depicts how this would affect the PPF?
- | | |
|------------|------------|
| a. Graph A | d. Graph D |
| b. Graph B | e. Graph E |
| c. Graph C | |

ANS: B DIF: Moderate
 REF: The Production Possibilities Frontier and Economic Growth
 OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

86. Suppose a new generation of baby boomers is entering the workforce. Which graph best depicts how this would affect the PPF?
- | | |
|------------|------------|
| a. Graph A | d. Graph D |
| b. Graph B | e. Graph E |
| c. Graph C | |

ANS: A DIF: Moderate
 REF: The Production Possibilities Frontier and Economic Growth
 OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

Consider the following scenario to answer the following questions: Two friends, Monica and Chandler, enjoy baking bread and making apple pies. Monica takes two hours to bake 1 loaf of bread and one hour to make 1 pie. Chandler takes four hours to bake 1 loaf of bread and four hours to make 1 pie.

87. What is Chandler's opportunity cost of baking 1 loaf of bread?
- a. 4 pies
 - b. 2 pies
 - c. 1 pie
 - d. 1 loaf of bread
 - e. 1/2 loaf of bread

ANS: C DIF: Moderate
REF: The Production Possibilities Frontier and Opportunity Cost
OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

88. What is Monica's opportunity cost of baking 1 loaf of bread?
- a. 4 pies
 - b. 2 pies
 - c. 1 pie
 - d. 1 loaf of bread
 - e. 1/2 loaf of bread

ANS: B DIF: Moderate
REF: The Production Possibilities Frontier and Opportunity Cost
OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

89. What is Chandler's opportunity cost of baking 1 pie?
- a. 4 pies
 - b. 2 pies
 - c. 1 pie
 - d. 1 loaf of bread
 - e. 1/2 loaf of bread

ANS: D DIF: Moderate
REF: The Production Possibilities Frontier and Opportunity Cost
OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

90. What is Monica's opportunity cost of baking 1 pie?
- a. 2 pies
 - b. 1 pie
 - c. 1 loaf of bread
 - d. 1/2 loaf of bread
 - e. 2 loaves of bread

ANS: D DIF: Moderate
REF: The Production Possibilities Frontier and Opportunity Cost
OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

91. If Monica and Chandler decide to specialize in order to maximize their combined output, who should produce what?
- a. Chandler should specialize in making pies because he has an absolute advantage.
 - b. Monica should specialize in making pies and Chandler should specialize in making bread.
 - c. Chandler should specialize in making pies and Monica should specialize in making bread.
 - d. Monica should specialize in making bread and pies because she has a comparative advantage in both.
 - e. Monica should not specialize because she is better at producing both.

ANS: B DIF: Difficult REF: Comparative Advantage
OBJ: 2.3 What are the benefits of specialization and trade? MSC: Analyzing

92. Specialization and trade allow individuals to
- a. consume outside their own production possibilities frontiers (PPFs).

- b. shift their PPFs outward.
- c. produce more goods with less technology.
- d. eliminate scarcity.
- e. produce fewer goods with less technology.

ANS: A DIF: Moderate REF: Gains from Trade

OBJ: 2.3 What are the benefits of specialization and trade? MSC: Understanding

93. One has an absolute advantage in producing something whenever
- a. one enjoys producing that good.
 - b. one can produce more of it than someone else using the same quantity of resources.
 - c. one's opportunity cost is constant.
 - d. one's opportunity cost is lower than that of other producers.
 - e. one has specific training in the production of that good.

ANS: B DIF: Easy REF: Gains from Trade

OBJ: 2.3 What are the benefits of specialization and trade? MSC: Remembering

94. When one producer can create more of a good than another producer using the same quantity of resources, the first producer has
- a. a zero-sum game.
 - b. gains from trade.
 - c. an absolute advantage.
 - d. a comparative advantage.
 - e. increasing relative costs.

ANS: C DIF: Easy REF: Gains from Trade

OBJ: 2.3 What are the benefits of specialization and trade? MSC: Remembering

95. The ability of one producer to create more of a good than another producer using the same quantity of resources is called
- a. comparative advantage.
 - b. absolute advantage.
 - c. a positive-sum game.
 - d. gains from trade.
 - e. the law of increasing relative cost.

ANS: B DIF: Easy REF: Gains from Trade

OBJ: 2.3 What are the benefits of specialization and trade? MSC: Remembering

Refer to the following table to answer the following questions.

	New York Pizzas	Philly Cheesesteaks
Jay-Z	40	120
Solange	50	125

96. Given the same quantity of resources, what is Solange's opportunity cost of producing a New York pizza?
- a. 5/2 Philly cheesesteaks
 - b. 2/5 Philly cheesesteak
 - c. 3 Philly cheesesteaks
 - d. 1/3 New York pizza
 - e. 4/5 New York pizza

ANS: A DIF: Moderate

REF: The Production Possibilities Frontier and Opportunity Cost

OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

97. Given the same quantity of resources, what is Jay-Z's opportunity cost of producing a New York pizza?

- a. 5/2 Philly cheesesteaks
- b. 1/3 Philly cheesesteak
- c. 3 Philly cheesesteaks
- d. 120/125 New York pizza
- e. 4/5 New York pizza

ANS: C DIF: Moderate

REF: The Production Possibilities Frontier and Opportunity Cost

OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

98. Given an eight-hour workday, which statement best describes the absolute advantage evident in the table?
- a. Jay-Z has an absolute advantage in making pizzas, and Solange has an absolute advantage in making cheesesteaks.
 - b. Solange has an absolute advantage in making pizzas, and Jay-Z has an absolute advantage in making cheesesteaks.
 - c. Jay-Z has an absolute advantage in the production of both foods.
 - d. Solange has an absolute advantage in the production of both foods.
 - e. Neither party has an absolute advantage.

ANS: D DIF: Easy REF: Gains from Trade

OBJ: 2.3 What are the benefits of specialization and trade? MSC: Analyzing

99. Given an eight-hour workday, to experience gains from trade,
- a. Solange should make pizzas and Jay-Z should make cheesesteaks.
 - b. Solange should make cheesesteaks and Jay-Z should make pizzas.
 - c. each should make his or her own cheesesteaks and pizzas.
 - d. Solange should produce both pizzas and cheesesteaks.
 - e. Jay-Z should produce both pizzas and cheesesteaks.

ANS: A DIF: Moderate REF: Gains from Trade

OBJ: 2.3 What are the benefits of specialization and trade? MSC: Analyzing

100. Suppose that Solange and Jay-Z could each make either New York–style pizza or Philly cheesesteaks. Given an eight-hour workday, which of the following would permit them to consume outside their respective production possibilities frontiers (PPFs)?
- a. a decrease in technology
 - b. a decrease in resources
 - c. specialization and trade
 - d. efficient use of all their productive resources
 - e. an “Empire State” of mind

ANS: C DIF: Easy REF: Gains from Trade

OBJ: 2.3 What are the benefits of specialization and trade? MSC: Applying

The figures below depict the production possibilities frontiers (PPFs) for two people who can allocate the same amount of time between building wooden boats and solving crimes. Refer to these figures to answer the following questions.



101. What is Gibbs's opportunity cost of making a wooden boat?
- | | |
|---------------------|-------------------|
| a. 20 solved crimes | d. 1/20 of a boat |
| b. 30 solved crimes | e. 1/10 of a boat |
| c. 10 solved crimes | |

ANS: C DIF: Moderate

REF: The Production Possibilities Frontier and Opportunity Cost

OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

102. What is DiNozzo's opportunity cost of making a wooden boat?
- | | |
|---------------------|-------------------|
| a. 20 solved crimes | d. 1/20 of a boat |
| b. 30 solved crimes | e. 1/10 of a boat |
| c. 10 solved crimes | |

ANS: A DIF: Moderate

REF: The Production Possibilities Frontier and Opportunity Cost

OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

103. What is Gibbs's opportunity cost of solving a crime?

- a. 20 solved crimes
- b. 30 solved crimes
- c. 5 solved crimes
- d. 1/20 of a boat
- e. 1/10 of a boat

ANS: E DIF: Moderate
 REF: The Production Possibilities Frontier and Opportunity Cost
 OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

104. Which statement best describes absolute advantage?
- a. DiNozzo has an absolute advantage in the production of wooden boats.
 - b. DiNozzo has an absolute advantage in both.
 - c. Gibbs has an absolute advantage in solving crimes, whereas DiNozzo has an absolute advantage in making wooden boats.
 - d. Gibbs has an absolute advantage in both.
 - e. Gibbs has an absolute advantage in making wooden boats, whereas DiNozzo has an absolute advantage in solving crimes.

ANS: D DIF: Easy REF: Gains from Trade
 OBJ: 2.3 What are the benefits of specialization and trade? MSC: Analyzing

105. What is DiNozzo’s opportunity cost for solving a crime?
- a. 20 solved crimes
 - b. 30 solved crimes
 - c. 5 solved crimes
 - d. 1/20 of a boat
 - e. 1/10 of a boat

ANS: D DIF: Moderate REF: Gains from Trade
 OBJ: 2.3 What are the benefits of specialization and trade? MSC: Analyzing

Consider the following scenario to answer the following questions: On a particular Saturday, Mark Zuckerberg and Bill Gates can either plant trees or spread mulch in their gardens. Their maximum output per day is listed in the following table, along with spaces where you can calculate the opportunity cost.

	Trees Planted	Opportunity Cost of 1 Tree	Amount of Mulch Spread (in cubic yards)	Opportunity Cost of Spreading 1 Cubic Yard of Mulch
Zuckerberg	20		30	
Gates	15		30	

106. Based on this scenario, who has an absolute advantage in spreading mulch?
- a. Zuckerberg has the advantage because he gives up fewer trees each time he spreads 1 cubic yard of mulch.
 - b. Gates has the advantage because he gives up fewer trees each time he spreads 1 cubic yard of mulch.
 - c. Zuckerberg has the advantage because he gives up more trees each time he spreads 1 cubic yard of mulch.
 - d. Neither has an absolute advantage in spreading mulch.
 - e. Both parties have an absolute advantage in planting trees.

ANS: D DIF: Easy REF: Gains from Trade
 OBJ: 2.3 What are the benefits of specialization and trade? MSC: Analyzing

107. At what terms of trade (relative price ratio) could they specialize and trade with one another so that both have more trees planted and mulch spread than they could accomplish on their own?
- 12 trees planted per 12 cubic yards of mulch spread
 - 10 trees planted per 12 cubic yards of mulch spread
 - 9 trees planted per 12 cubic yards of mulch spread
 - 7 trees planted per 12 cubic yards of mulch spread
 - 5 trees planted per 12 cubic yards of mulch spread

ANS: D DIF: Difficult REF: Finding the Right Price to Facilitate Trade
OBJ: 2.3 What are the benefits of specialization and trade? MSC: Analyzing

108. If Lola can produce more output from a set amount of resources than Kevin, _____ has a(n) _____ advantage.
- Lola; comparative
 - Kevin; comparative
 - Lola; absolute
 - Kevin; absolute
 - Lola; normative

ANS: C DIF: Easy REF: Gains from Trade
OBJ: 2.3 What are the benefits of specialization and trade? MSC: Applying

109. When one producer has a comparative advantage in production, he or she
- can produce more output than someone else using the same quantity of resources.
 - can produce a good at a lower opportunity cost than someone else.
 - does not benefit from trade with other producers.
 - is unable to reach his or her production possibilities frontier (PPF).
 - trades only with others who have the same comparative advantage.

ANS: B DIF: Easy REF: Comparative Advantage
OBJ: 2.3 What are the benefits of specialization and trade? MSC: Remembering

110. The ability of one producer to produce a good at a lower opportunity cost than another producer is called
- a normative statement.
 - a zero-sum game.
 - absolute advantage.
 - comparative advantage.
 - the law of increasing relative cost.

ANS: D DIF: Easy REF: Comparative Advantage
OBJ: 2.3 What are the benefits of specialization and trade? MSC: Remembering

111. To determine which of two producers has a comparative advantage, one would need to know their
- increasing relative costs.
 - opportunity costs of production for both goods.
 - normative beliefs.
 - zero-sum games.
 - levels of investment.

ANS: B DIF: Easy REF: Comparative Advantage
OBJ: 2.3 What are the benefits of specialization and trade? MSC: Understanding

112. Someone has a comparative advantage in producing a good whenever
- one enjoys producing that good.
 - one can produce more of the good than someone else using the same resources.
 - one's opportunity cost is constant.
 - one's opportunity cost of producing that good is lower than that of other producers.
 - one has specific training in the production of that good.

ANS: D DIF: Easy REF: Comparative Advantage
OBJ: 2.3 What are the benefits of specialization and trade? MSC: Remembering

113. Mrs. Abel has a comparative advantage in producing cabbage if, in comparison to Mr. Lace, Mrs. Abel can grow cabbage
- a. with less labor.
 - b. with fewer inputs.
 - c. at a lower equilibrium.
 - d. at a lower opportunity cost.
 - e. with less technology.

ANS: D DIF: Easy REF: Comparative Advantage
OBJ: 2.3 What are the benefits of specialization and trade? MSC: Applying

114. If Kingsley can sell paper at a lower opportunity cost than Todrick, then _____ has a(n) _____ advantage in paper sales.
- a. Kingsley; absolute
 - b. Todrick; absolute
 - c. Kingsley; positive
 - d. Kingsley; comparative
 - e. Todrick; comparative

ANS: D DIF: Easy REF: Comparative Advantage
OBJ: 2.3 What are the benefits of specialization and trade? MSC: Applying

115. Suppose Hoda is a brilliant attorney who can draft especially persuasive legal briefs. She also happens to possess some excellent administrative skills such as typing, filing, assembling binders and notes, and making reservations. Which best describes whether Hoda should hire an administrative assistant to help her?
- a. Hoda should not hire an administrative assistant because she has an absolute advantage in performing administrative functions.
 - b. Hoda should not hire an administrative assistant because she likely has a comparative advantage in performing administrative functions.
 - c. Hoda should hire an administrative assistant because the assistant would likely have an absolute advantage in writing legal briefs.
 - d. Hoda should hire an administrative assistant because the assistant would likely have a comparative advantage in performing administrative functions.
 - e. Hoda should hire an administrative assistant because the assistant would likely have a comparative advantage in writing legal briefs.

ANS: D DIF: Difficult REF: Comparative Advantage
OBJ: 2.3 What are the benefits of specialization and trade? MSC: Applying

116. For both parties to benefit from specialization and trade, the trading parties must agree on
- a. a price somewhere between their opportunity costs of production.
 - b. a plan not to trade with other parties.
 - c. who has the absolute advantage in production.
 - d. the appropriate level of investment for the future.
 - e. the source of comparative advantage.

ANS: A DIF: Moderate REF: Finding the Right Price to Facilitate Trade
OBJ: 2.3 What are the benefits of specialization and trade? MSC: Understanding

117. Suppose that Lo and Manuel can either run errands or wash dishes. Their maximum outputs per hour are listed in the following table. Given the same quantity of resources, at what terms of trade (relative price ratio) could they specialize and trade so that both consume outside their own production possibilities frontiers (PPFs)?

Errands	Opportunity Cost	Dishes	Opportunity Cost
----------------	-------------------------	---------------	-------------------------

	Run	of 1 Errand	Washed	of 1 Dish Washed
Lo	1	60 dishes	60	1/60 errand
Manuel	3	15 dishes	45	1/15 errand

- a. 1 errand run per 75 dishes washed
- b. 1 errand run per 30 dishes washed
- c. 1 errand run per 12 dishes washed
- d. 1 errand run per 10 dishes washed
- e. 1 errand run per 6 dishes washed

ANS: B DIF: Moderate REF: Finding the Right Price to Facilitate Trade
 OBJ: 2.3 What are the benefits of specialization and trade? MSC: Applying

118. Suppose that Leslie and Hussein can either make salads or grill steaks. Their maximum outputs per hour are listed in the following table. Given the same quantity of resources, at what terms of trade (relative price ratio) could they specialize and trade so that both consume outside their own production possibilities frontiers (PPFs)?

	Maximum	Opportunity	Maximum	Opportunity Cost
	Number of Salads	Cost of 1 Salad	Number of Steaks	of 1 Steak
Leslie	9	1/3 steak	3	3 salads
Hussein	12	1/2 steak	6	2 salads

- a. 1 salad per 1 steak
- b. 2 salads per 1 steak
- c. 2.5 salads per 1 steak
- d. 3 salads per 1 steak
- e. 3.5 salads per 1 steak

ANS: C DIF: Moderate REF: Finding the Right Price to Facilitate Trade
 OBJ: 2.3 What are the benefits of specialization and trade? MSC: Analyzing

119. Consumer goods

- a. are produced today to be used to produce more goods in the future.
- b. are produced today to be consumed at some point in the future.
- c. are invested today in order to consume more today.
- d. are produced today to be consumed today.
- e. generate economic growth.

ANS: D DIF: Easy REF: Consumer Goods, Capital Goods, and Investment

OBJ: 2.4 What is the trade-off between having more now and having more later?
 MSC: Remembering

120. Goods that are produced now so that they can be used to produce other goods in the future are called _____ goods.

- a. capital
- b. consumer
- c. investment
- d. normal
- e. opportunity

ANS: A DIF: Easy REF: Consumer Goods, Capital Goods, and Investment

OBJ: 2.4 What is the trade-off between having more now and having more later?
 MSC: Remembering

121. Goods that are produced for current consumption are called _____ goods.

- a. capital
- d. normal

- b. consumer
- c. investment
- e. opportunity

ANS: B DIF: Easy REF: Consumer Goods, Capital Goods, and Investment
OBJ: 2.4 What is the trade-off between having more now and having more later?
MSC: Understanding

122. Goods that are produced today in order to make other valuable goods and services in the future are called _____ goods.
- a. normal
 - b. inferior
 - c. consumer
 - d. capital
 - e. personal

ANS: D DIF: Easy REF: Consumer Goods, Capital Goods, and Investment
OBJ: 2.4 What is the trade-off between having more now and having more later?
MSC: Remembering

123. Forgoing current consumption so that those resources can be used to produce new capital is called
- a. absolute advantage.
 - b. comparative advantage.
 - c. investment.
 - d. scarcity.
 - e. saving.

ANS: C DIF: Easy REF: Consumer Goods, Capital Goods, and Investment
OBJ: 2.4 What is the trade-off between having more now and having more later?
MSC: Understanding

124. The process of using current resources to create or buy new capital is called
- a. absolute advantage.
 - b. comparative advantage.
 - c. investment.
 - d. the law of increasing relative cost.
 - e. economic growth.

ANS: C DIF: Easy REF: Consumer Goods, Capital Goods, and Investment
OBJ: 2.4 What is the trade-off between having more now and having more later?
MSC: Remembering

125. The process of using current resources to create new capital is
- a. absolute advantage.
 - b. comparative advantage.
 - c. specialization.
 - d. investment.
 - e. free.

ANS: D DIF: Easy REF: Consumer Goods, Capital Goods, and Investment
OBJ: 2.4 What is the trade-off between having more now and having more later?
MSC: Remembering

126. The opportunity cost of every investment in capital goods is
- a. current consumption (consumer goods).
 - b. future consumption (capital goods today).
 - c. absolute advantage.
 - d. comparative advantage.
 - e. scarcity.

ANS: A DIF: Moderate REF: Consumer Goods, Capital Goods, and Investment

OBJ: 2.4 What is the trade-off between having more now and having more later?

MSC: Understanding

127. Over the last 20 years, countries such as India and China have
- consumed heavily with little regard for the future.
 - invested heavily and enjoyed significant economic growth.
 - eliminated the problem of scarcity.
 - produced outside their production possibilities frontiers (PPFs).
 - produced wholly for current consumption.

ANS: B DIF: Moderate REF: Consumer Goods, Capital Goods, and Investment

OBJ: 2.4 What is the trade-off between having more now and having more later?

MSC: Understanding

128. Is there an opportunity cost to increased investment in capital goods today?
- Yes, increased production of capital goods means fewer consumer goods today.
 - Yes, increased production of capital goods today means less economic growth in the future.
 - No, increased production of capital goods today does not mean fewer consumer goods today.
 - No, increased production of capital goods today guarantees more consumption today.
 - No, if society is producing at an efficient point on the production possibilities frontier (PPF), then there is no opportunity cost to investment in capital goods.

ANS: A DIF: Moderate REF: Consumer Goods, Capital Goods, and Investment

OBJ: 2.4 What is the trade-off between having more now and having more later?

MSC: Understanding

129. Greater investment in capital goods today leads to
- greater growth in the production possibilities frontier (PPF) in the future.
 - greater consumption today.
 - the end of scarcity.
 - less opportunity cost.
 - scarcity.

ANS: A DIF: Moderate REF: Consumer Goods, Capital Goods, and Investment

OBJ: 2.4 What is the trade-off between having more now and having more later?

MSC: Understanding

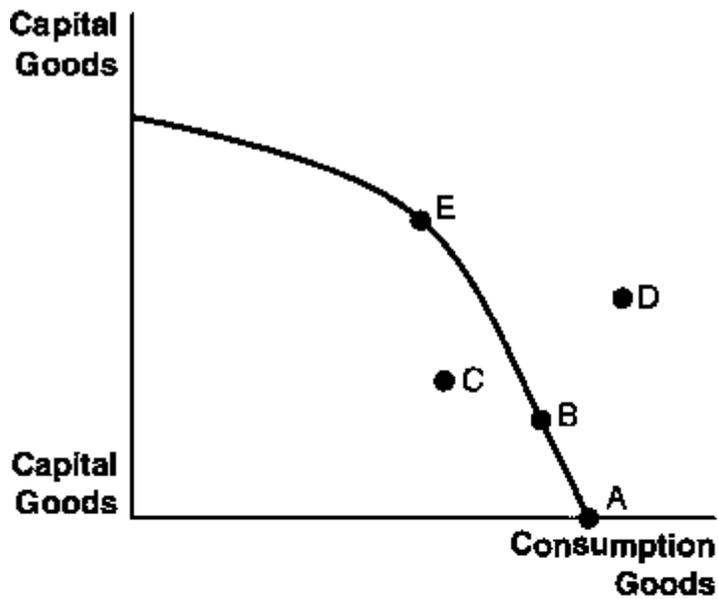
130. Which of the following would NOT lead to an outward shift of a future production possibilities frontier (PPF)?
- | | |
|-------------------------------|-----------------------------------|
| a. population growth | d. the discovery of new resources |
| b. increased investment today | e. a decline in life expectancy |
| c. an increase in technology | |

ANS: E DIF: Difficult REF: Consumer Goods, Capital Goods, and Investment

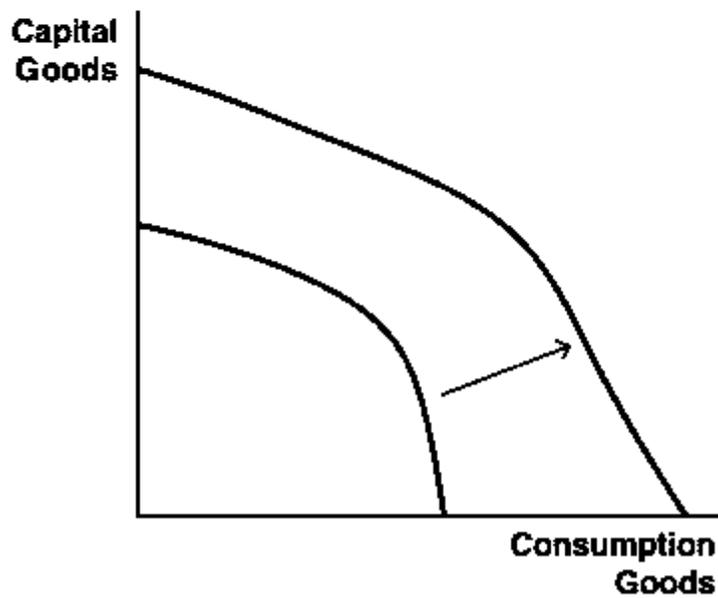
OBJ: 2.4 What is the trade-off between having more now and having more later?

MSC: Applying

Refer to the following figures to answer the following questions.



Short-run PPF



Long-run PPF

131. Which allocation point in the short-run production possibilities frontier (PPF) will lead to no growth in the long-run PPF?
- a. point A
 - b. point B
 - c. point C
 - d. point D
 - e. point E

ANS: A DIF: Moderate REF: Consumer Goods, Capital Goods, and Investment

OBJ: 2.4 What is the trade-off between having more now and having more later?

MSC: Analyzing

132. Which allocation point in the short-run production possibilities frontier (PPF) will lead to the most significant growth in the long-run PPF?
- a. point A
 - b. point B
 - c. point C
 - d. point D
 - e. point E

ANS: E DIF: Moderate REF: Consumer Goods, Capital Goods, and Investment

OBJ: 2.4 What is the trade-off between having more now and having more later?

MSC: Analyzing

133. The usual purpose of an experiment is to
- a. test a model that is based on a hypothesis.
 - b. turn a hypothesis into a theory.
 - c. observe an interesting phenomenon.
 - d. construct a model based on a hypothesis.
 - e. formulate a hypothesis that explains a phenomenon.

ANS: A DIF: Moderate REF: The Scientific Method in Economics

OBJ: 2.1 How do economists study the economy? MSC: Understanding

134. For a phenomenon to be investigated by means of experiments, the phenomenon must
- a. involve human beings.
 - b. have observable effects.
 - c. have occurred in the past.
 - d. be well understood.
 - e. be quantitatively measurable.

ANS: B DIF: Difficult REF: The Scientific Method in Economics

OBJ: 2.1 How do economists study the economy? MSC: Analyzing

135. Which of the following is an important characteristic of good economic models?
- a. They deal with the economy as a whole.
 - b. They use the language of mathematics.
 - c. They are flexible in their designs.
 - d. They avoid making predictions.
 - e. They are as complex as the realities they represent.

ANS: C DIF: Moderate REF: Economic Models

OBJ: 2.1 How do economists study the economy? MSC: Remembering

136. Wilbur and Orville Wright's testing of wing designs in a wind tunnel is an example of using
- a. observations to construct models.
 - b. hypotheses to test observations.
 - c. a theory to formulate hypotheses.
 - d. models to collect data.
 - e. data to make predictions.

ANS: D DIF: Moderate REF: Economic Models

OBJ: 2.1 How do economists study the economy? MSC: Understanding

137. Which faulty assumption by banks led to the Great Recession that began in 2007?
- a. that inflation would always remain low
 - b. that the U.S. government would always pay its debts
 - c. that stock prices would never drop
 - d. that the dollar would always be strong against other currencies
 - e. that real estate prices would always rise

ANS: E DIF: Moderate REF: Economic Models

OBJ: 2.1 How do economists study the economy? MSC: Remembering

138. Economic growth is, by definition, an increase in the
- ability to produce goods.
 - number of participants in the workforce.
 - demand for goods.
 - average citizen's standard of living.
 - average worker's salary.

ANS: A DIF: Easy

REF: The Production Possibilities Frontier and Economic Growth

OBJ: 2.2 What is a production possibilities frontier? MSC: Remembering

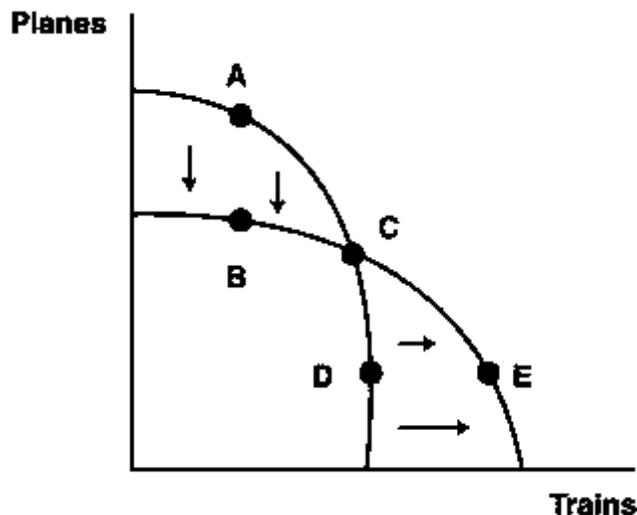
139. Which scenario represents economic contraction?
- an outward shift of the PPF
 - an inward shift of the PPF
 - upward movement along the PPF
 - downward movement along the PPF
 - straightening of the curve of the PPF

ANS: B DIF: Easy

REF: The Production Possibilities Frontier and Economic Growth

OBJ: 2.2 What is a production possibilities frontier? MSC: Understanding

The figure depicts a shift in a society's production possibilities frontier (PPF) for the manufacture of trains and planes: train-manufacturing capacity expands while plane-manufacturing capacity shrinks. Refer to this figure to answer the following questions.



140. Which point represents a new production possibility?
- point A
 - point B
 - point C
 - point D
 - point E

ANS: E DIF: Moderate

REF: The Production Possibilities Frontier and Economic Growth

OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

141. Which point ceases to represent a production possibility?
- point A
 - point B
 - point C
 - point D
 - point E

- d. Neither Kukla nor Zola likes the proposal.
- e. Ollie's proposal is not feasible.

ANS: C DIF: Moderate REF: Finding the Right Price to Facilitate Trade
OBJ: 2.3 What are the benefits of specialization and trade? MSC: Applying

147. When an economy shifts away from production of consumer goods and toward production of capital goods, for the average worker this trade-off means
- a. a higher standard of living.
 - b. longer work hours.
 - c. a lower savings rate (as a percentage of income).
 - d. more leisure time.
 - e. more disposable income.

ANS: B DIF: Moderate REF: Consumer Goods, Capital Goods, and Investment
OBJ: 2.4 What is the trade-off between having more now and having more later?
MSC: Understanding

148. For what kind of society does a shift away from the production of capital goods and toward the production of consumer goods make sense?
- a. a society with a scarcity of natural resources
 - b. a society with a high unemployment rate
 - c. a society with a low per-capita income
 - d. a society with a large per-capita stock of capital goods
 - e. a society with a large population

ANS: D DIF: Moderate REF: Consumer Goods, Capital Goods, and Investment
OBJ: 2.4 What is the trade-off between having more now and having more later?
MSC: Remembering

149. A poker player wins some cash. Which use of the money would most naturally be considered an investment?
- a. buying a round of drinks for everyone at a bar
 - b. using the money to play more poker
 - c. paying off debts owed to bookies
 - d. shopping for groceries
 - e. buying a book of tips for poker players

ANS: E DIF: Easy REF: Economic Models
OBJ: 2.4 What is the trade-off between having more now and having more later?
MSC: Applying

150. Why has India's economy grown faster than the United States' in recent years?
- a. India production has focused more on consumer goods.
 - b. India has lowered its population growth rate.
 - c. India has attained a higher standard of living than the United States.
 - d. India's production has focused more on capital goods.
 - e. India has placed more focus on its citizens' immediate needs.

ANS: D DIF: Moderate REF: Economic Models
OBJ: 2.4 What is the trade-off between having more now and having more later?
MSC: Remembering

SHORT ANSWER

1. Comment on the role of models in economics. What are the strengths and weaknesses of using them to explore the world around us?

ANS:

Models are important because they simplify a complex world to a level where we can consider a limited number of factors and identify important relationships between them. This simplified view of reality can give us a better understanding of the component parts. To keep models simple and understandable, we need to exclude many outside (exogenous) factors. If we exclude something that is highly important to the outcome, however, our model will not have good predictive power and won't help our understanding of the real world. A good model carefully excludes or filters out factors that will have little impact on the end result in an effort to better understand the main causal factors.

DIF: Moderate REF: Economic Models

OBJ: 2.1 How do economists study the economy?

MSC: Understanding

2. How will a reduction in the national unemployment rate affect a nation's production possibilities frontier (PPF)?

ANS:

Unemployed labor resources mean that, as a society, we are not producing on our production possibilities frontier (PPF). A reduction in the unemployment rate generally means that more people are working. As these labor resources are being utilized, we can move from farther inside the PPF (in the inefficient range) toward the efficient points on the frontier itself. It does not cause the actual PPF to shift. To do that there would need to be an actual increase in resources, not just more use of existing resources. (A new baby boom generation or an increase in immigration is the kind of thing that could actually increase labor resources and shift the PPF outward.)

DIF: Moderate REF: What Is a Production Possibilities Frontier?

OBJ: 2.2 What is a production possibilities frontier?

MSC: Understanding

3. What assumptions do economists make when developing a production possibilities frontier (PPF)?

ANS:

To simplify the complexity of the real world, economists assume that there are only two goods that society can produce and that there are no changes in the amount of resources and technology. Also, time is fixed and all resources are used fully and efficiently. None of these assumptions are actually true; we can discover new resources or see nature destroy existing ones, we invent new technologies, and (most important) we live in a world where there are more than two things that we can produce and consume. Nevertheless, the PPF gives us important insights into the trade-offs we face as we make production decisions and provides insights into the concepts of comparative advantage, specialization, efficiency, scarcity, and trade.

DIF: Difficult REF: What Is a Production Possibilities Frontier?

OBJ: 2.2 What is a production possibilities frontier?

MSC: Understanding

4. What does it mean when society is operating inside the production possibilities frontier (PPF)?

ANS:

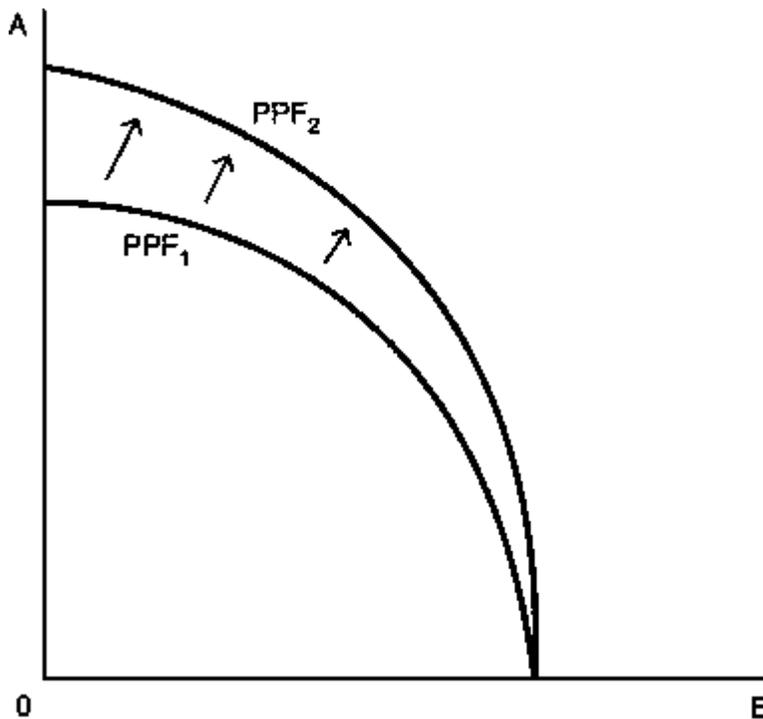
The society is not fully utilizing all of its resources; it is operating in the inefficient range of the PPF. This could be caused by unemployed workers, unused productive capacity, or unmotivated workers. Anything that prevents productive resources from being fully or efficiently employed in making goods and services pushes society inside its PPF. With better management, the society can have more of both goods without having to give up any current production of either.

DIF: Moderate REF: What Is a Production Possibilities Frontier?

OBJ: 2.2 What is a production possibilities frontier? MSC: Understanding

5. Draw a production possibilities frontier (PPF) for good A and good B. Suppose that these goods are subject to increasing relative costs in production, and be sure that your graph reflects this fact. Now suppose that a new and innovative technology enhances the production of good A but not good B. Illustrate how this new innovation changes the production possibilities frontier (PPF).

ANS:



DIF: Difficult REF: The Production Possibilities Frontier and Opportunity Cost

OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

6. Explain how scarcity is the root cause of the trade-offs and opportunity cost illustrated in the production possibilities frontier (PPF).

ANS:

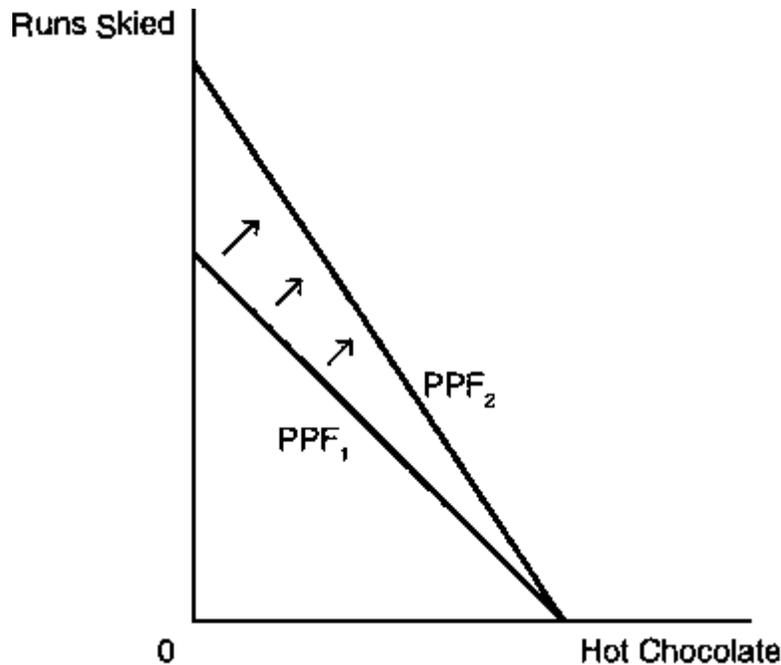
The PPF shows the maximum attainable combinations of two goods given efficient use of fixed resources and technology. Without scarcity, we can all have as much of everything as we want; there is no need to choose (illustrated as a point beyond the PPF). There are no trade-offs, no constraints, and no frontiers. It is only because of the economic condition of scarcity that we are forced to choose how to allocate our resources to produce at a specific point on the PPF.

Opportunity cost, the giving up of one thing to get more of another, is a direct result of the need to choose, which is created by scarcity.

DIF: Difficult REF: The Production Possibilities Frontier and Opportunity Cost
OBJ: 2.2 What is a production possibilities frontier? MSC: Understanding

7. Suppose that, during an afternoon at Hambre's favorite ski resort, Hambre could either make additional runs down the slopes or produce and sip hot chocolate by the fire in the lodge. Draw a production possibilities frontier (PPF) that describes his production trade-offs between runs skied (by riding the chairlift to the top and skiing down the slope) versus cups of hot chocolate produced and sipped. Hambre's production of each of these goods is subject to constant marginal opportunity costs in production, so be sure that, in the graph, the opportunity cost of one activity in terms of the other is the same at any point on the PPF. Now suppose that a new superfast ski lift reduces the time it takes to get to the top of the mountain. Show, on the same graph, how this changes the PPF.

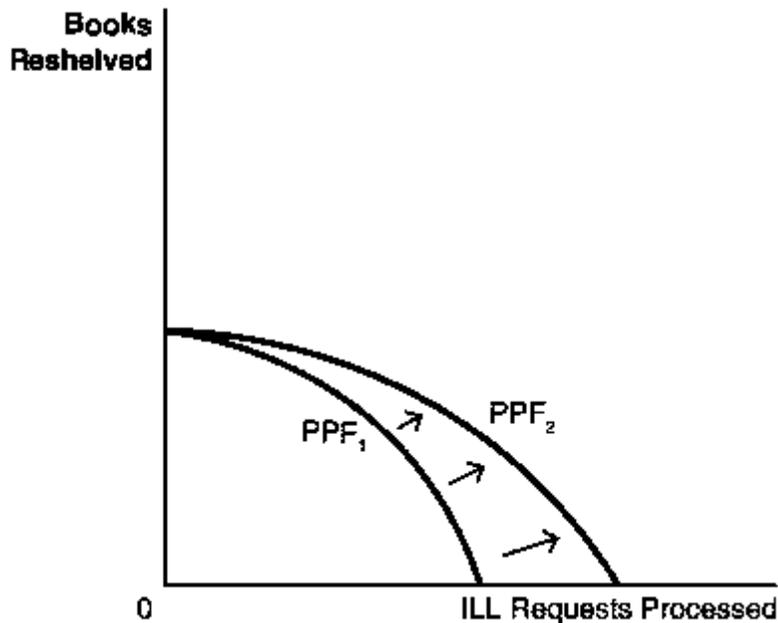
ANS:



DIF: Moderate REF: The Production Possibilities Frontier and Economic Growth
OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

8. Suppose that during Coco's afternoon shift working at the library, she could either reshelve books or process interlibrary loan (ILL) requests. Draw a production possibilities frontier (PPF) that describes Coco's production trade-offs. Her production of each of these goods is subject to increasing relative costs in production, so be sure that the graph reflects this fact. Now suppose that a new online request system increases Coco's efficiency at processing ILL requests but does not affect her reshelving ability. Show, on the same graph, how this new innovation changes the PPF.

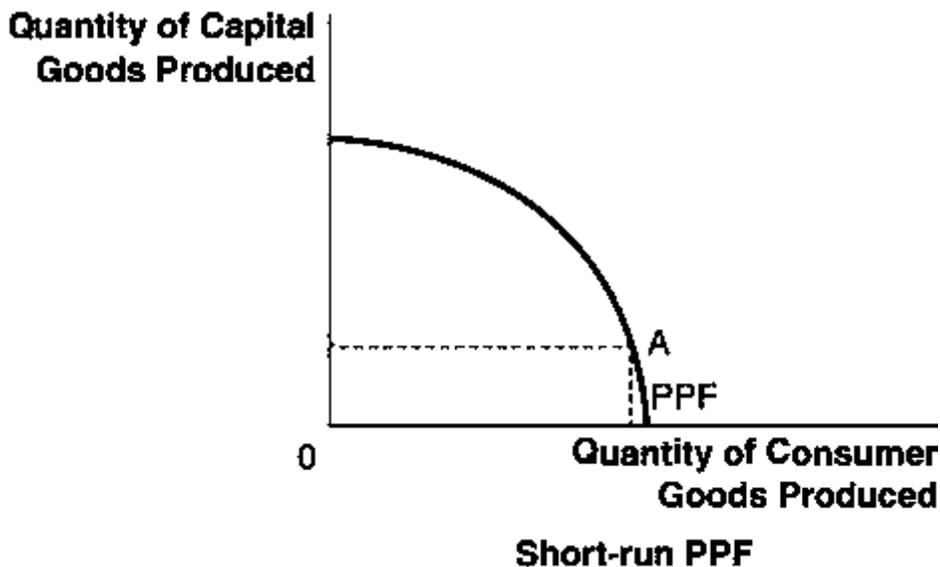
ANS:



DIF: Moderate REF: The Production Possibilities Frontier and Economic Growth
 OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

9. Draw a production possibilities frontier (PPF) that shows a pizza shop’s production trade-offs between producing pizzas and stromboli. Suppose the pizza shop upgrades to a larger, more automated oven. On the same graph, show how the PPF changes. (The oven is used to bake both pizzas and stromboli.)

ANS:



DIF: Moderate REF: The Production Possibilities Frontier and Economic Growth
 OBJ: 2.2 What is a production possibilities frontier? MSC: Analyzing

10. Kristen is planning to add new mulch to all the landscaping beds around her house. She has determined the quantity of mulch she will need and identified these two options for getting the mulch to her house:
1. Kristen can have all the mulch delivered to her yard in one dump truck for \$450.

2. Kristen can make four trips to the garden center with her pickup truck and haul it herself. It will cost her \$75 per load for the mulch, plus \$25 in fuel and truck wear per load. She estimates it will take about five hours to haul and unload all four loads.

What is the full cost of each method? Which method is cheaper? How is opportunity cost relevant?

ANS:

Hauling the mulch herself would cost \$100 per load times four loads, or \$400 out of pocket. That amount doesn't account, however, for the opportunity cost of Kristen's time to haul and unload the mulch herself. The full cost of self-delivery should account for her time. The difference in the monetary cost of hauling herself (\$400) versus delivery (\$450) is \$50. If the opportunity cost of Kristen's time is greater than \$10 per hour, she should have the mulch delivered. If her time is worth less than \$10 per hour, it is cheaper to haul it herself.

DIF: Difficult REF: Gains from Trade
 OBJ: 2.3 What are the benefits of specialization and trade? MSC: Analyzing

11. How can a person who is "better" or more efficient (in that he or she has an absolute advantage in the production of various goods on the PPF) at producing several things be made even better off by specialization and trade?

ANS:

It sometimes seems counterintuitive that someone who has an absolute advantage in producing many things could be made better off by trading with less efficient producers. By producing the good or service in which you have the lowest opportunity cost and by letting others specialize in the things in which they have a lower opportunity cost, societal production can be maximized. Then, with mutually beneficial voluntary trade, market participants can consume a bundle of goods outside their own production possibilities frontiers (PPFs). In other words, they can consume more goods and services than they could produce and consume on their own. Regardless of each person's level of skill or innovation, people are better off with trade than they would be if they all produced and consumed everything for themselves. Imagine what our standard of living would be like if we each had to grow all our own food, build our own shelters, and make our own clothes.

DIF: Moderate REF: Comparative Advantage
 OBJ: 2.3 What are the benefits of specialization and trade? MSC: Evaluating

12. The existing entries in the following table show the maximum quantities of milk shakes or fruit smoothies the college president and dining hall staffer could make during an afternoon shift, given a fixed amount of resources.

- a. Fill in the remaining part of the table (be sure to label the units) and answer the questions below.

	Number of Milk Shakes per Shift	Number of Smoothies per Shift	Opportunity Cost of 1 Smoothie	Opportunity Cost of 1 Milk Shake
President	50	25		
Dining Hall Staffer	90	30		

- b. Who has a comparative advantage in producing smoothies?
 c. Who has an absolute advantage in producing milk shakes?

ANS:

a.

	Number of Milk Shakes per Shift	Number of Smoothies per Shift	Opportunity Cost of 1 Smoothie	Opportunity Cost of 1 Milk Shake
President	50	25	2 milk shakes	1/2 smoothie
Dining Hall Staffer	90	30	3 milk shakes	1/3 smoothie

- b. President has a comparative advantage in making smoothies (even though dining hall staffer has an absolute advantage).
- c. Dining hall staffer has an absolute advantage in producing milk shakes (and smoothies, too, as mentioned in answer B).

DIF: Moderate REF: Comparative Advantage

OBJ: 2.3 What are the benefits of specialization and trade? MSC: Analyzing

13. The table below shows the maximum number of burgers or hot dogs that Frances and Takeru can cook in one hour.

- a. Fill in the rest of the table with the opportunity cost of burgers and hot dogs for each person. Be sure to include the units.
- b. Identify who has a comparative advantage in producing each good.

	Maximum Burgers	Maximum Hot Dogs	Opportunity Cost of 1 Burger	Opportunity Cost of 1 Hot Dog
Frances	30	60		
Takeru	50	75		

ANS:

a.

	Maximum Burgers	Maximum Hot Dogs	Opportunity Cost of 1 Burger	Opportunity Cost of 1 Hot Dog
Frances	30	60	2 hot dogs	1/2 burger
Takeru	50	75	3/2 hot dogs	2/3 burger

- b. Takeru has a comparative advantage in making burgers, and Frances has a comparative advantage in making hot dogs.

DIF: Moderate REF: Comparative Advantage

OBJ: 2.3 What are the benefits of specialization and trade? MSC: Analyzing

14. Why might Shaquille O'Neal, a 7'1" former National Basketball Association (NBA) player, hire professional movers to help him move, even though his size and strength likely make him more proficient (better) at furniture moving than the professionals he may hire?

ANS:

Even today, Shaquille O'Neal has certain occupational opportunities, like being a professional basketball analyst, that most movers do not possess. This suggests that Shaq's opportunity cost may be greater than that of the professional movers, giving the movers a comparative advantage. This was easily apparent when he was still actively playing in the NBA. Moving himself might have meant missing out on practice time, which is important for his continued high level of performance. Even now that he has retired, the things that he can do with his time (his opportunity cost) may be more valuable than what the movers give up, which still gives the movers a comparative advantage. Because of this, Shaq would be better off hiring movers even if he has an absolute advantage in moving his possessions.

DIF: Moderate REF: Comparative Advantage

OBJ: 2.3 What are the benefits of specialization and trade?

MSC: Evaluating

15. Why doesn't our society invest more resources into the production of capital goods to enhance the level of growth in our future production possibilities frontier (PPF)?

ANS:

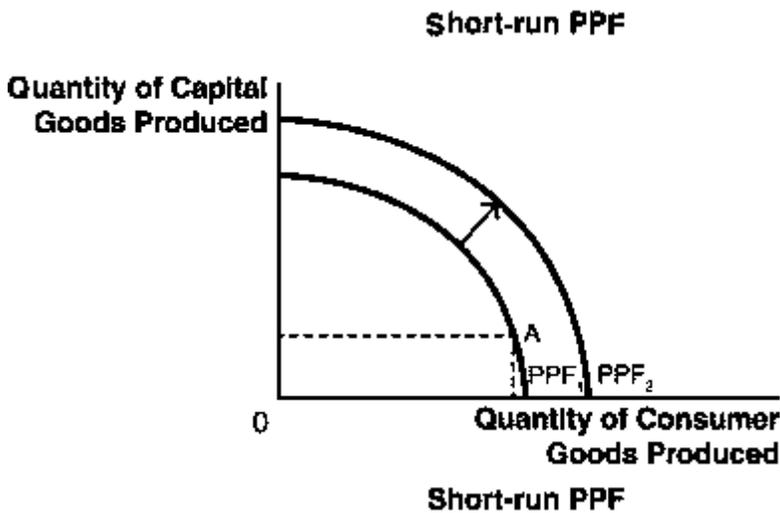
Capital goods are great because they lead to economic growth. Consumer goods are great because we get satisfaction now. Production of either one comes at an opportunity cost; in a world of scarce resources we have to give up current consumption in order to produce capital goods. It may be that the political process or our own biases and time preferences sometimes distort the allocation of resources between present consumption and investment in capital for the future, but it is not the case that it is always better to invest more for the future. Consumers also value current consumption. Ultimately, it depends on the marginal benefit versus the marginal cost of the actual capital and consumption production point.

DIF: Moderate REF: Consumer Goods, Capital Goods, and Investment

OBJ: 2.4 What is the trade-off between having more now and having more later?

MSC: Evaluating

16. In the movie *A Knight's Tale*, three peasants win a jousting tournament and must decide whether they should enjoy most of their winnings now or use most of it for training to improve their future jousting performances. Use appropriate production possibilities frontiers (PPFs) and words to describe the investment trade-off they face.



ANS:

This is a classic example of the trade-off between the present and the future. If the peasants spend most of their winnings to live well now, they greatly value their current consumption, or consume at point A on the short-run PPF graph above.

If they choose to invest more of their winnings to train to become better jousters in the future, and perhaps win more over the long run, they will consume at point B on the short-run PPF graph. The investment leads to greater growth of the long-run PPF, as seen in the graph above.

DIF: Moderate REF: Consumer Goods, Capital Goods, and Investment
OBJ: 2.4 What is the trade-off between having more now and having more later?
MSC: Analyzing

17. Is it always better to forgo current consumption in order to invest more in capital goods that will provide more growth in society's production possibilities frontier (PPF) and make us better off in the future?

ANS:

No, it is not always better to forgo current consumption in order to invest for the future. Economic growth is great; most of us would like to see increases in society's ability to produce and are willing to sacrifice some current consumption in order to make the capital goods today that make future growth possible. However, we also value current consumption. If we produced only capital goods today, there would be no food, clothing, shelter, entertainment, and so forth available for current consumption. Because the opportunity cost of producing additional capital goods is current consumption, it is not the case that investing in capital goods is always preferred.

DIF: Moderate REF: Consumer Goods, Capital Goods, and Investment
OBJ: 2.4 What is the trade-off between having more now and having more later?
MSC: Evaluating

18. Physicists can conduct experiments to study subatomic particles, even though no one has ever seen or photographed a subatomic particle. Experimental psychologists can study emotions, even though no one has ever seen or photographed an emotion. How can there be experiments in these areas of study? What are the implications for the science of economics?

ANS:

Experiments don't require that every aspect of a phenomenon be visible to the naked eye. What is required is that the phenomenon produce some observable effect. Subatomic particles leave trails in a bubble chamber. Emotions produce characteristic facial expressions and characteristic ways of talking and behaving. In the same way, one cannot directly observe demand. But one can observe people's purchasing behaviors at different price points for a good.

DIF: Difficult REF: The Scientific Method in Economics
OBJ: 2.1 How do economists study the economy? MSC: Evaluating

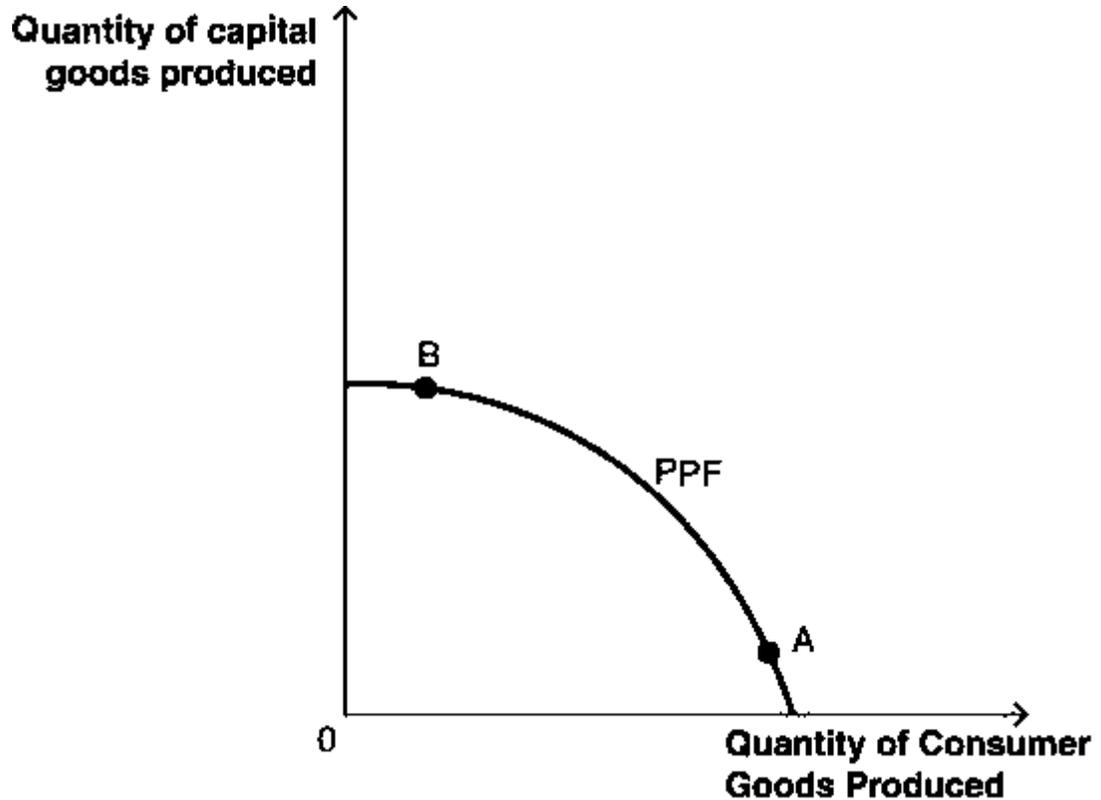
19. Explain why, ultimately, the opportunity cost of producing consumer goods instead of capital goods must be defined in terms of consumer goods.

ANS:

Initially, the opportunity cost of producing consumer goods is the nonproduction of capital goods, because of a diversion of production resources. However, the value of capital goods is in their contribution to future production. If all that capital goods lead to is the production of more capital goods, that makes for an infinite regress. Ultimately, for capital goods to be valuable, they must lead to the production of consumer goods. So then, ultimately, the opportunity cost of producing consumer goods now is in terms of fewer consumer goods produced at some indefinite point in the future, because of fewer capital goods available to produce them.

DIF: Difficult REF: Consumer Goods, Capital Goods, and Investment
OBJ: 2.4 What is the trade-off between having more now and having more later?
MSC: Evaluating

20. Explain why, in the figure, a country might rather be at point B than at point A.



ANS:

The curve represents a production possibilities frontier, or PPF. Points A and B both represent efficient outputs—that is, full use of available production resources. But compared with point A, point B represents a choice to produce more capital goods and fewer consumer goods. This makes sense for a country with a shortage of capital goods, where potentially there would be a great demand for more consumer goods if only they could be produced and if only people could afford them. Focusing on the production of capital goods means more hardship for people in the short term, but in the long term it means a more productive economy, which provides more jobs and produces more consumer goods on which workers can spend their wages.

DIF: Moderate REF: Consumer Goods, Capital Goods, and Investment
OBJ: 2.4 What is the trade-off between having more now and having more later?
MSC: Understanding

21. Explain how trading of goods creates value without creating any new goods.

ANS:

A trade enables each party to obtain something more cheaply than would be possible without trading. For instance, a tomato farmer can obtain corn more efficiently by trading tomatoes for it than by planting and growing it. The time and resources saved in this way can be put to use making more goods, with the tomato farmer growing more tomatoes and the corn farmer, in turn, growing more corn. In this way, all parties end up producing more goods than they could without trade.

DIF: Difficult REF: Specialization and Trade

OBJ: 2.3 What are the benefits of specialization and trade? MSC: Analyzing

22. Why is the concept of *ceteris paribus* important for model building?

ANS:

Ceteris paribus means “other things being equal.” When a model predicts that a certain change in input conditions will produce a certain effect, this is only on the assumption that other parameters of the model remain fixed. For instance, the supply-and-demand model tells us that if demand for a good decreases, the price will drop. But this assumes that supply has not also decreased. For this reason, economists who formulate predictions based on observed cause-and-effect patterns must either ensure that other factors “remain equal” or else state that their predictions assume other factors to remain equal.

DIF: Easy REF: Economic Models

OBJ: 2.1 How do economists study the economy? MSC: Understanding

23. When economists use models to make predictions, faulty assumptions can have disastrous consequences. Why is “avoid making assumptions” not the solution to this problem? Use the concepts of endogenous and exogenous factors to explain.

ANS:

Economics studies human behavior, which is highly complex, so that any model has to be a highly simplified representation. The factors that are included in the model are called endogenous, but many factors have to be left out; they are called exogenous. Any choice to leave some factor out of the model involves the assumption that leaving that factor out doesn’t render the model useless. In other words, the choice of which factors to make endogenous and which ones exogenous involves assumptions about what is important. Since the choice is unavoidable, so is making assumptions.

DIF: Difficult REF: Economic Models

OBJ: 2.1 How do economists study the economy? MSC: Evaluating

24. When it comes to making ceramic plates and cups, Reza has a comparative advantage over Greta. When it comes to making knives, forks, and spoons, Greta has a comparative advantage over Reza. If Reza and Greta plan to engage in trade for mutual gain, does the concept of opportunity cost enable them to determine exactly what trading ratio of place settings to silverware sets they should use? Why or why not?

ANS:

Opportunity cost sets the range of trading ratios that would be acceptable to both Reza and Greta. When Reza gives Greta a batch of place settings, he must get back at least as much silverware as he could have made in the time it took to make the place settings. Conversely, Greta must get at least as much in the way of place settings as what she could have made in the time it took her to produce the silverware. But comparative advantage does not determine a unique trading ratio; that has to be decided by all the usual tools of bargaining, such as bluffing and arguments about what is fair.

DIF: Difficult REF: Specialization and Trade

OBJ: 2.3 What are the benefits of specialization and trade? MSC: Analyzing

25. Even though person A has an absolute advantage over person B both at producing good X and at producing good Y, it can still make sense for persons A and B to engage in trade involving goods X and Y. Explain why this is so.

ANS:

In general, person B will have a comparative advantage over person A at producing one of the two goods. Suppose that good is X. Then B sacrifices fewer Ys to make an X than A does, and so it makes sense for B to produce Xs while leaving the production of Ys to A. This will maximize their combined output, and through trade they can ensure they each do at least as well as they would have done alone, while ending up with a bigger surplus.

DIF: Difficult REF: Consumer Goods, Capital Goods, and Investment

OBJ: 2.4 What is the trade-off between having more now and having more later?

MSC: Evaluating