Chapter 2 Economic Models 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:
   a. the scientific method in economics.
   b. macroeconomics.
   c. economic growth.
   d. normative analysis.
   e. comparative advantage.

   ANS: A DIF: Easy REF: The Scientific Method in Economics
   TOP: I.A. MSC: Remembering

2. On the television show *MythBusters*, the hosts design experiments, collect data, and test theories based on popular myths. This is an example of:
   a. the scientific method as used in economics.
   b. economic growth.
   c. gains from trade.
   d. production possibilities.
   e. absolute advantage.

   ANS: A DIF: Easy REF: The Scientific Method in Economics
   TOP: I.A. MSC: Remembering

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

   ANS: E DIF: Moderate REF: The Scientific Method in Economics
   TOP: I.A. MSC: Remembering

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

   ANS: E DIF: Moderate REF: The Scientific Method in Economics
   TOP: I.A. MSC: Remembering

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

   ANS: A DIF: Easy REF: Positive and Normative Analysis
   TOP: I.B. MSC: Remembering

6. Which of the following is a positive statement?
   a. An economist should test every theory at least twice.
   b. Increases in the minimum wage cause unemployment.
   c. We ought to deregulate the mortgage market.
   d. The government must provide unlimited health care to citizens.
   e. We should forgo some current consumption in order to invest in the future.

   ANS: B DIF: Easy REF: Positive and Normative Analysis
   TOP: I.B. MSC: Applying

7. Which of the following is a normative statement?
   a. The sky is blue.
   b. The sky is green with pink polka dots.
   c. Points on the production possibilities frontier (PPF) are efficient.
   d. Points outside the PPF are unattainable with current resources.
   e. We should strive to push the PPF outward.

   ANS: E DIF: Easy REF: Positive and Normative Analysis
   TOP: I.B. MSC: Applying

8. Which of the following is a positive statement?
   a. My dog should lose some weight.
   b. Legally requiring dogs to have rabies shots will reduce the number of rabid dogs.
   c. You should take your dog to the veterinarian once a year for a checkup.
   d. Chihuahuas are cuter than bulldogs.
   e. All dogs should be required to wear leashes at all times.

   ANS: B DIF: Easy REF: Positive and Normative Analysis
   TOP: I.B. MSC: Applying

9. Which of the following is a normative statement?
   a. You should wear a helmet when cycling.
   b. The sky is blue.
   c. A bicycle has two wheels.
   d. A unicycle has five wheels.
   e. Electricity follows the path of least resistance.

   ANS: A DIF: Moderate REF: Positive and Normative Analysis
   TOP: I.B. MSC: Applying

10. Which of the following is a positive statement?
    a. Individuals should make good long-term decisions.
    b. Corporations should maximize shareholder value.
    c. Government should reduce the level of unemployment.
    d. The most important effects of policy happen in the short term.
    e. The unemployment rate is 8%.

    ANS: E DIF: Moderate REF: Positive and Normative Analysis
    TOP: I.B. MSC: Applying

11. Which of the following is a positive statement?
    a. Winters in Arkansas are too cold.
    b. Everyone should work in a bank to understand the true value of money.
    c. Harvard University is the top education institution in the country.

d. On average, people save 15% when they switch to GEICO.
e. Everyone ought to have a life insurance policy.

ANS: D DIF: Moderate REF: Positive and Normative Analysis
TOP: I.B. MSC: Applying

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

ANS: C DIF: Moderate REF: Positive and Normative Analysis
TOP: I.B. MSC: Applying

13. The important act of holding all other variables constant while examining a particular variable is known as:
a. constraint.
b. a normative statement.
c. a positive statement.
d. macroeconomics.
e. *ceteris paribus.*

ANS: E DIF: Easy REF: Economic Models
TOP: I.C. MSC: Remembering

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

ANS: C DIF: Easy REF: Economic Models
TOP: I.C. MSC: Remembering

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

ANS: B DIF: Easy REF: Economic Models
TOP: I.C. MSC: Remembering

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

ANS: B DIF: Easy REF: Economic Models
TOP: I.C. MSC: Understanding

17. The process of examining a change in one variable in a model while assuming that all the other variables remain constant is called:
a. external factors.
d. positive analysis.

b. *ceteris paribus.*
c. normative analysis.
e. faulty assumptions.

ANS: B DIF: Moderate REF: Economic Models
TOP: I.C. MSC: Remembering

18. 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 internal factors.
e. ensure that all possible factors are included.

ANS: A DIF: Moderate REF: Economic Models
TOP: I.C. MSC: Understanding

19. 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
TOP: I.C. MSC: Understanding

20. 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?
TOP: II. MSC: Remembering

21. 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?
TOP: II. MSC: Remembering

22. 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

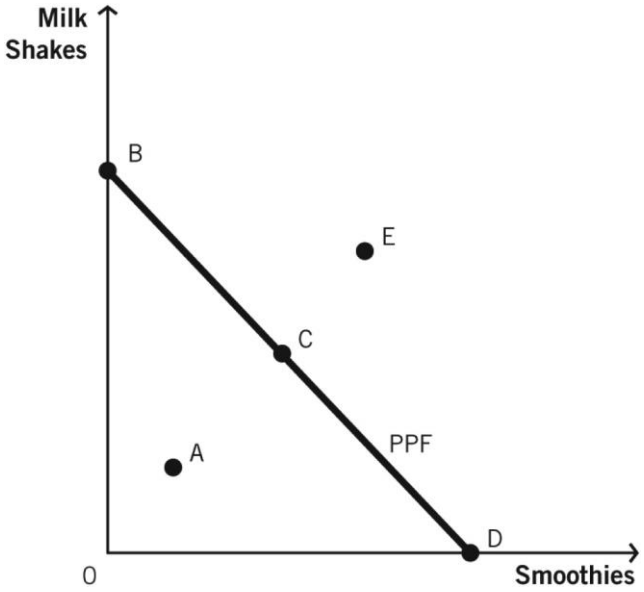
ANS: D DIF: Easy REF: What Is a Production Possibilities Frontier?

TOP: II. MSC: Remembering

23. 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?
TOP: II. MSC: Remembering

Refer to the following figure to answer the five questions that follow.



24. 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?
TOP: II. MSC: Analyzing

25. 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?
TOP: II. MSC: Analyzing

26. 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?

TOP: II. MSC: Analyzing

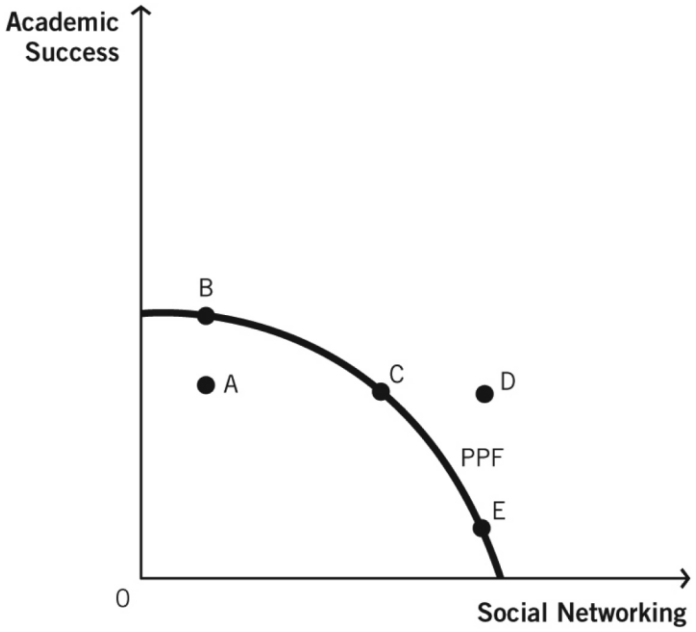
27. In the figure, point E is:
    a. an efficient point.
    b. unattainable with current resources.
    c. an inefficient point.
    d. the equilibrium.
    e. evidence that trade does not enrich society.

    ANS: B DIF: Easy REF: What Is a Production Possibilities Frontier?
    TOP: II. MSC: Analyzing

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

    ANS: C DIF: Moderate
    REF: The Production Possibilities Frontier and Opportunity Cost
    TOP: II.A. MSC: Analyzing

Refer to the accompanying figure to answer the four questions that follow.



29. The inefficient point(s) on the figure is/are:
    a. point A.
    b. points C and D.
    c. point C.
    d. point D.
    e. points B, C, and E.

    ANS: A DIF: Easy REF: What Is a Production Possibilities Frontier?
    TOP: II. MSC: Analyzing

30. Which point(s) on the figure show inefficient use of resources?
    a. point A.
    d. point D.

b. point B.
c. point C.
e. points B, C, and E.

ANS: A DIF: Easy REF: What Is a Production Possibilities Frontier?
TOP: II. MSC: Analyzing

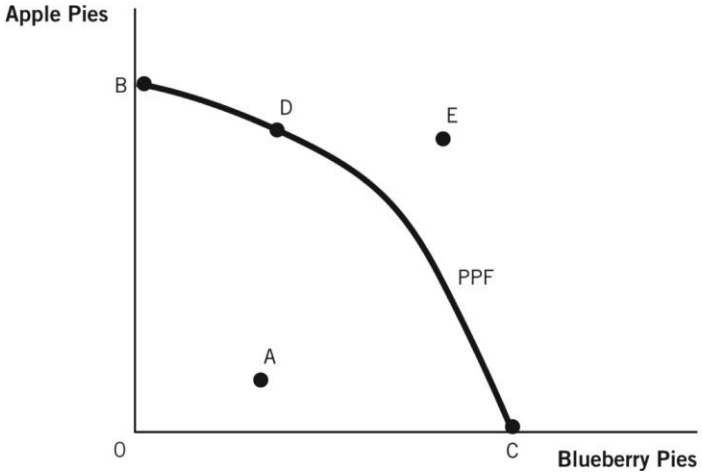
31. Based on the figure, you would need even more hours in each day in order to attain:
a. point A.
b. point B.
c. point C.
d. point D.
e. point E.

ANS: D DIF: Easy REF: What Is a Production Possibilities Frontier?
TOP: II. MSC: Analyzing

32. How is opportunity cost illustrated in the figure?
a. a move from point A to point B
b. a move from point A to point C
c. a move from point C to point D
d. a move from point B to point C
e. a move from point D to point E

ANS: D DIF: Moderate
REF: The Production Possibilities Frontier and Opportunity Cost
TOP: II.A. MSC: Analyzing

Refer to the following figure to answer the four questions that follow.



33. Which point on the figure shows inefficient use of resources?
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?
TOP: II. MSC: Analyzing

34. Which point on the figure represents a point that is unattainable with current resources and technology?
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?
TOP: II. MSC: Analyzing

35. Based on the graph, what is the most preferred consumption point for a pie-appreciating society?
    a. point A
    b. point B
    c. point C
    d. point D
    e. point E

    ANS: E DIF: Difficult REF: What Is a Production Possibilities Frontier?
    TOP: II. MSC: Analyzing

36. You can see that the opportunity cost of moving from point B to point D is different from the opportunity cost of moving from point D to point C because:
    a. apples are bigger than blueberries.
    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
    TOP: II.A. MSC: Analyzing

37. *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?
    TOP: II. MSC: Remembering

38. 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?
    TOP: II. MSC: Understanding

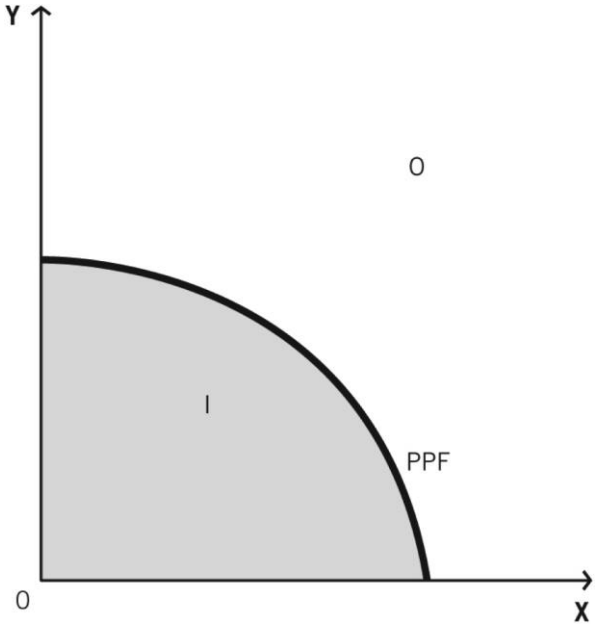
39. How will a reduction in the national unemployment rate affect a nation's production possibilities frontier (PPF)?
    a. It will cause the PPF to shift inward.
    b. It will cause the PPF to shift outward.
    c. It will move society to a point farther inside the PPF.
    d. It will move society outward to a point closer to or on the PPF.
    e. It will push society to a point outside its PPF.

    ANS: D DIF: Moderate REF: What Is a Production Possibilities Frontier?
    TOP: II. MSC: Understanding

40. Think of the production possibilities frontier (PPF) model. When society is producing the largest possible output from its resources, it is operating:
    a. inefficiently.
    b. efficiently.
    c. with no opportunity cost.
    d. inside (within) the PPF.
    e. beyond its opportunity cost.

    ANS: B DIF: Moderate REF: What Is a Production Possibilities Frontier?
    TOP: II. MSC: Understanding

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



41. Given current resources and technology, the attainable range is best described as which places on the figure?
    a. only area O: points outside the PPF.
    b. points on the PPF only.
    c. only area I: points inside the PPF.
    d. area I: points inside the PPF and points on the PPF.
    e. area O: points outside the PPF and points on the PPF.

    ANS: D DIF: Moderate REF: What Is a Production Possibilities Frontier?
    TOP: II. MSC: Analyzing

42. The set of efficient points is best described as which places on the figure?
    a. only area O: points outside the PPF.
    b. points on the PPF only.
    c. only area I: points inside the PPF.
    d. area I: inside the PPF and points on the PPF.
    e. area O: outside the PPF and points on the PPF.

    ANS: B DIF: Moderate REF: What Is a Production Possibilities Frontier?
    TOP: II. MSC: Analyzing

43. Given current resources and technology, the unattainable range is best described as which places on the figures?
    a. only area O: points outside the PPF.

b. points on the PPF only.
c. only area I: points inside the PPF.
d. area I: inside the PPF and points on the PPF.
e. area O: outside the PPF and points on the PPF.

ANS: A DIF: Moderate REF: What Is a Production Possibilities Frontier?
TOP: II. MSC: Analyzing

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

ANS: D DIF: Difficult REF: What Is a Production Possibilities Frontier?
TOP: II. MSC: Understanding

45. The production possibilities frontier (PPF) shows:
a. the trade-off between the efficient production of two different goods.
b. the difference between micro analysis and macro analysis.
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?
TOP: II.A. MSC: Remembering

46. The _____ states that the opportunity cost of producing a good always rises as you produce 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
TOP: II.A. MSC: Remembering

47. When the opportunity cost of producing a good rises as you produce more of it, you experience:
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
TOP: II.A. MSC: Remembering

48. 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 production possibilities frontier (PPF).
e. has eliminated scarcity.

ANS: C DIF: Moderate
REF: The Production Possibilities Frontier and Opportunity Cost
TOP: II.A. MSC: Remembering

49. As you move from one efficient point on the production possibilities frontier (PPF) to another efficient point on the PPF, you 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
TOP: II.A. MSC: Remembering

50. Suppose you are 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: Moderate
REF: The Production Possibilities Frontier and Opportunity Cost
TOP: II.A. MSC: Understanding

51. 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:
a. absolute advantage.
b. opportunity cost.
c. normative analysis.
d. comparative advantage.
e. positive advantage.

ANS: B DIF: Moderate
REF: The Production Possibilities Frontier and Opportunity Cost
TOP: II.A. MSC: Applying

Michael and Angelo 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 six questions that follow.

	Sculptures	Paintings
Michael	10	5
Angelo	6	2

52. What is Michael's opportunity cost of a sculpture?
a. 2 paintings
b. 1/2 painting
c. 3 paintings
d. 1/3 sculpture
e. 1/2 sculpture

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

TOP: II.A. MSC: Applying

53. What is Angelo's opportunity cost of a sculpture?
    a. 1/2 painting
    b. 1/3 painting
    c. 3 paintings
    d. 1/3 sculpture
    e. 6/10 sculpture

    ANS: B DIF: Moderate
    REF: The Production Possibilities Frontier and Opportunity Cost
    TOP: II.A. MSC: Applying

54. What is Michael'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
    TOP: II.A. MSC: Applying

55. What is Angelo'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
    TOP: II.A. MSC: Applying

56. Does either Michael or Angelo have an absolute advantage?
    a. Yes, Michael has an absolute advantage in both sculptures and paintings.
    b. Yes, Angelo has an absolute advantage in both sculptures and paintings.
    c. Yes, Michael has an absolute advantage in paintings, and Angelo has an absolute advantage in sculptures.
    d. Yes, Michael has an absolute advantage in sculptures, and Angelo has an absolute advantage in paintings.
    e. No, neither has an absolute advantage.

    ANS: A DIF: Moderate REF: Gains from Trade
    TOP: III.A. MSC: Applying

57. Does either Michael or Angelo have a comparative advantage?
    a. Yes, Michael has a comparative advantage in both sculptures and paintings.
    b. Yes, Angelo has a comparative advantage in both sculptures and paintings.
    c. Yes, Michael has a comparative advantage in paintings, and Angelo has a comparative advantage in sculptures.
    d. Yes, Michael has a comparative advantage in sculptures, and Angelo has a comparative advantage in paintings.
    e. No, neither has a comparative advantage.

    ANS: C DIF: Moderate REF: Comparative Advantage
    TOP: III.B. MSC: Applying

Refer to the following table to answer the five questions that follow.

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

58. Given the same quantity of resources, what is Alicia Keys'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
    TOP: II.A. MSC: Applying

59. 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
    TOP: II.A. MSC: Applying

60. 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 Alicia Keys has an absolute advantage in making cheesesteaks.
    b. Alicia Keys 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. Alicia Keys has an absolute advantage in the production of both foods.
    e. Neither party has an absolute advantage.

    ANS: D DIF: Moderate REF: Gains from Trade
    TOP: III.A. MSC: Applying

61. Given an eight-hour workday, to experience gains from trade:
    a. Alicia should make pizzas and Jay-Z should make cheesesteaks.
    b. Alicia should make cheesesteaks and Jay-Z should make pizzas.
    c. each should make their own cheesesteaks and pizzas.
    d. Alicia should produce both pizzas and cheesesteaks.
    e. Jay-Z should produce both pizzas and cheesesteaks.

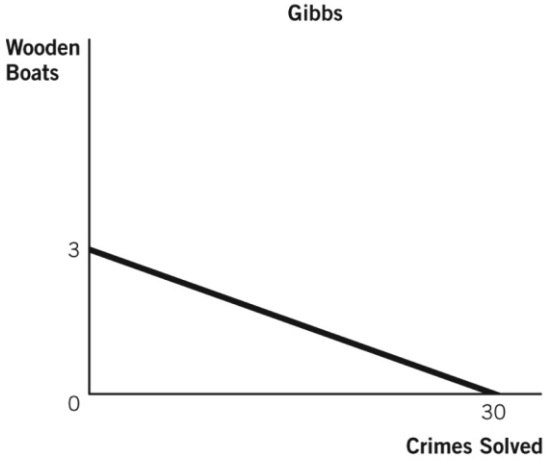
    ANS: A DIF: Moderate REF: Gains from Trade
    TOP: III.A. MSC: Analyzing

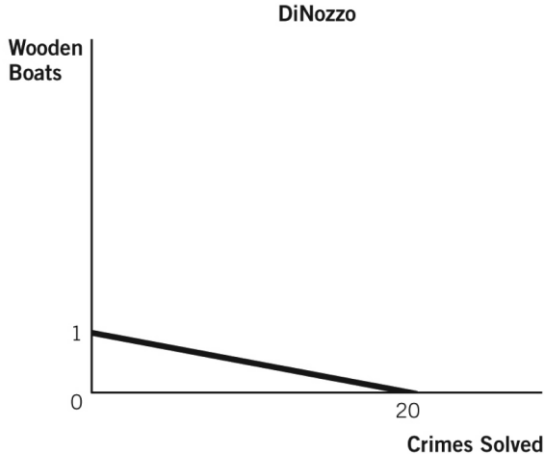
62. Suppose that Alicia Keys and Jay-Z could each make either New York–style pizza or Philly cheesesteaks. Given an eight-hour workday, which of the following would permit them to consume outside their respective production possibilities frontiers (PPFs)?
    a. a decrease in technology
    b. a decrease in resources

c. specialization and trade
d. efficient use of all their productive resources
e. an "Empire State" of mind

ANS: C DIF: Moderate REF: Gains from Trade
TOP: III.A. 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 five questions that follow.





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

ANS: C DIF: Moderate
REF: The Production Possibilities Frontier and Opportunity Cost
TOP: II.A. MSC: Analyzing

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

ANS: A DIF: Moderate
REF: The Production Possibilities Frontier and Opportunity Cost
TOP: II.A. MSC: Analyzing

65. 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
TOP: II.A. MSC: Analyzing

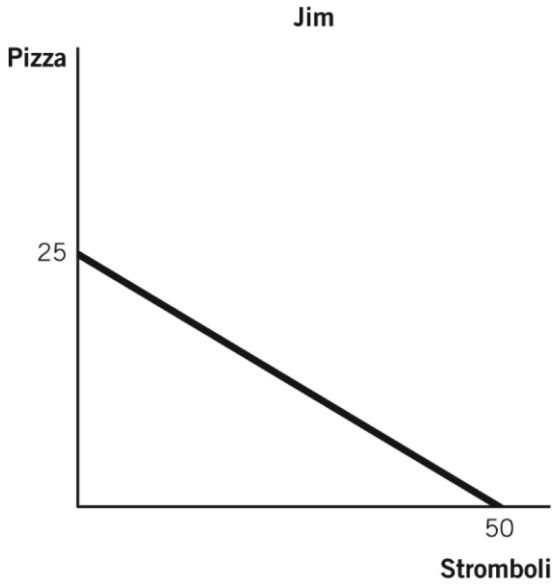
66. Which statement best describes absolute advantage?
    a. DiNozzo has an absolute advantage in the production of wooden boats.
    b. DiNozzo has an absolute advantage in both.
    c. Gibbs has an absolute advantage in solving crimes, whereas DiNozzo has an absolute advantage in making wooden boats.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

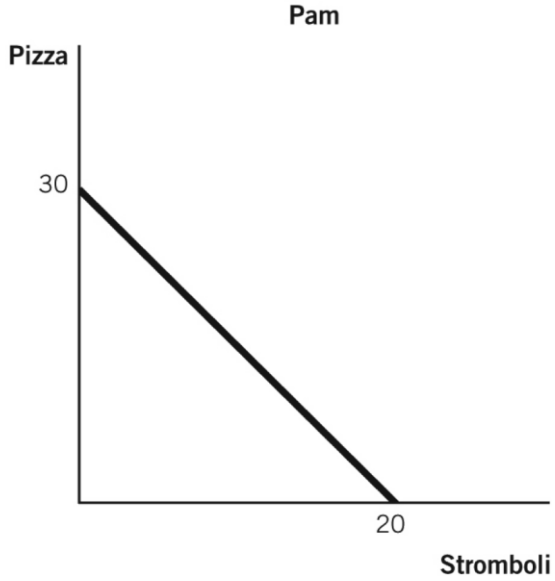
ANS: D DIF: Easy REF: Gains from Trade
TOP: III.A. MSC: Analyzing

67. 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
TOP: III.A. 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 six questions that follow.





68. What is Jim's opportunity cost of making a 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
    TOP: II.A. MSC: Analyzing

69. What is Pam's opportunity cost of making a 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
    TOP: II.A. MSC: Analyzing

70. What is Jim's opportunity cost of making a 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
    TOP: II.A. MSC: Analyzing

71. Which statement best describes the absolute advantage shown in the figures?
    a. Pam has an absolute advantage in the production of both.
    b. Jim has an absolute advantage in the production of both.
    c. Jim has an absolute advantage in the production of pizzas, and Pam has an absolute advantage in the production of stromboli.
    d. Pam has an absolute advantage in the production of pizzas, and Jim 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
    TOP: III.A. MSC: Analyzing

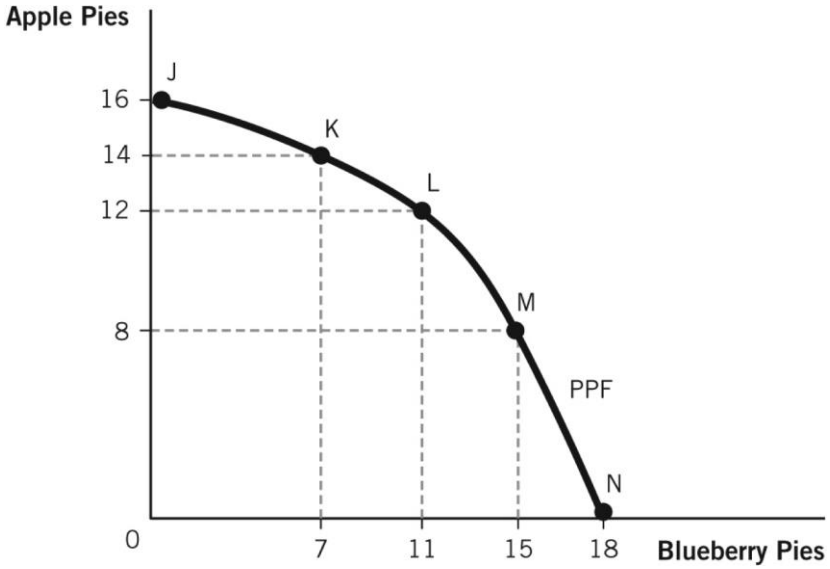
72. Based on the figures, which statement about comparative advantage is true?
    a. Jim has a comparative advantage in the production of stromboli because his opportunity cost is lower.
    b. Jim has a comparative advantage in the production of stromboli because his opportunity cost is higher.
    c. Jim has a comparative advantage in the production of pizzas because his opportunity cost is lower.
    d. Jim has a comparative advantage in the production of pizzas because his opportunity cost is higher.
    e. Jim has a comparative advantage in the production of both pizzas and stromboli.

    ANS: A DIF: Moderate REF: Comparative Advantage
    TOP: III.B. MSC: Analyzing

73. If Jim and Pam 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
    TOP: III.C. MSC: Analyzing

Refer to the following figure for the five questions that follow.



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

    ANS: D DIF: Moderate
    REF: The Production Possibilities Frontier and Opportunity Cost
    TOP: II.A. MSC: Analyzing

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

    ANS: C DIF: Moderate
    REF: The Production Possibilities Frontier and Opportunity Cost
    TOP: II.A. MSC: Analyzing

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

    ANS: E DIF: Moderate
    REF: The Production Possibilities Frontier and Opportunity Cost
    TOP: II.A. MSC: Analyzing

77. As you move from points N to M to L, the opportunity cost of additional apple pie:
    a. decreases due to the law of increasing relative cost.
    b. increases due to the law of increasing relative cost.
    c. decreases due to the law of normative economics.
    d. increases due to the law of marginal analysis.
    e. decreases due to enhancements in technology.

    ANS: B DIF: Difficult
    REF: The Production Possibilities Frontier and Opportunity Cost
    TOP: II.A. MSC: Understanding

78. According to the figure, a new technology that makes it easier to peel, core, and prepare apples will cause the:
    a. entire production possibilities frontier (PPF) to shift outward.
    b. entire PPF to shift inward.
    c. PPF to rotate outward to a larger maximum quantity of apple pies with no change in maximum blueberry pies.
    d. PPF to rotate outward to a larger maximum quantity of blueberry pies with no change in maximum apple pies.
    e. 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
    TOP: II.B. MSC: Analyzing

79. Opportunity cost is evident on the production possibilities frontier (PPF) graph:
    a. as you move from one point on the frontier to another point on the frontier.
    b. as you move from the origin to any inefficient point.
    c. as you move from one unattainable point to an efficient point on the frontier.
    d. as you move from an inefficient point to the origin.
    e. at any one single point on the graph.

    ANS: A DIF: Difficult
    REF: The Production Possibilities Frontier and Opportunity Cost
    TOP: II.A. MSC: Understanding

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

    ANS: C DIF: Difficult
    REF: The Production Possibilities Frontier and Opportunity Cost
    TOP: II.A. MSC: Understanding

81. Economic growth can be depicted on a production possibilities frontier (PPF) as an:
    a. inward shift of the PPF.
    b. outward shift of the PPF.
    c. inward rotation along the *x* axis.
    d. inward rotation along the *y* axis.
    e. increase in opportunity cost.

    ANS: B DIF: Moderate
    REF: The Production Possibilities Frontier and Economic Growth
    TOP: II.B. MSC: Remembering

82. Economic growth is represented on a production possibilities frontier (PPF) by the PPF:
    a. getting steeper.
    b. getting flatter.
    c. shifting inward.
    d. shifting outward.
    e. rotating downward.

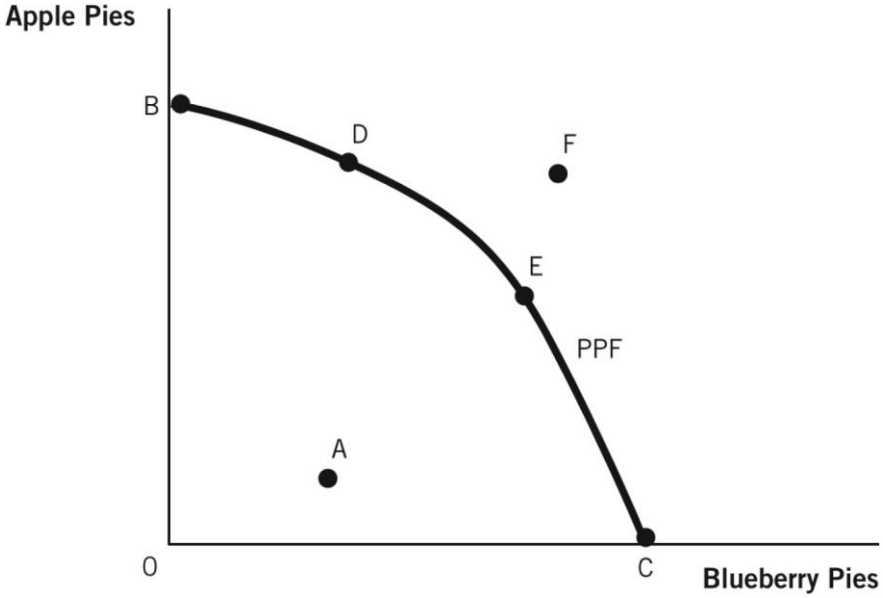
    ANS: D DIF: Moderate
    REF: The Production Possibilities Frontier and Economic Growth

TOP: II.B. MSC: Understanding

83. 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: Moderate
REF: The Production Possibilities Frontier and Economic Growth
TOP: II.B. MSC: Applying

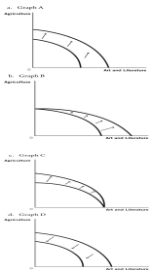
84. Refer to the graph below. This society could reach point F when there is a(n):



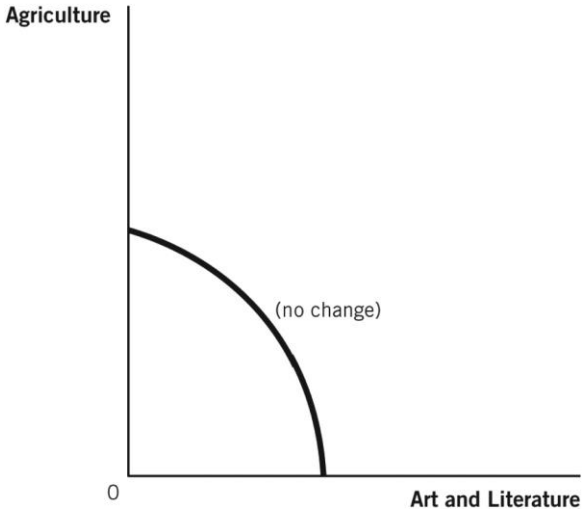
a. increase in the monetary price of apple pie.
b. credible new study that shows blueberries reduce the risk of heart attack.
c. increase in technology that makes pie bakers more efficient.
d. new regulation that makes pie baking more costly.
e. increase in the monetary price of blueberry pie.

ANS: C DIF: Moderate
REF: The Production Possibilities Frontier and Economic Growth
TOP: II.B. MSC: Applying

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



e. Graph E



85. 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
b. Graph B
c. Graph C
d. Graph D
e. Graph E

ANS: C DIF: Moderate
REF: The Production Possibilities Frontier and Economic Growth
TOP: II.B. MSC: Analyzing

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

ANS: B DIF: Moderate
REF: The Production Possibilities Frontier and Economic Growth
TOP: II.B. MSC: Analyzing

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

ANS: A DIF: Moderate
REF: The Production Possibilities Frontier and Economic Growth
TOP: II.B. MSC: Analyzing

88. 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
b. Graph B
c. Graph C
d. Graph D
e. Graph E

ANS: D DIF: Difficult
REF: The Production Possibilities Frontier and Economic Growth

TOP: II.B. MSC: Analyzing

89. An increase in general resources that affects the production of both goods on a production possibilities frontier (PPF) would cause 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: B DIF: Difficult
REF: The Production Possibilities Frontier and Economic Growth
TOP: II.B. MSC: Remembering

90. 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
TOP: II.B. MSC: Applying

91. Specialization and trade allow individuals to:
a. consume outside their own production possibilities frontiers (PPFs).
b. shift their PPF outward.
c. produce more goods with less technology.
d. eliminate scarcity.
e. produce fewer goods with less technology.

ANS: A DIF: Easy REF: Gains from Trade
TOP: III.A. MSC: Understanding

92. You have an absolute advantage in producing something whenever:
a. you enjoy producing that good.
b. you can produce more of it than someone else can using the same quantity of resources.
c. your opportunity cost is constant.
d. your opportunity cost is lower than that of other producers.
e. you have specific training in the production of that good.

ANS: B DIF: Easy REF: Gains from Trade
TOP: III.A. MSC: Remembering

93. 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
TOP: III.A. MSC: Remembering

94. 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.
d. gains from trade.
e. the law of increasing relative cost.

c. a positive-sum game.

ANS: B DIF: Easy REF: Gains from Trade
TOP: III.A. MSC: Remembering

Consider the following scenario to answer the five questions that follow.

Two friends, Rachel and Joey, enjoy baking bread and making apple pies. Rachel takes two hours to bake one loaf of bread and one hour to make one pie. Joey takes four hours to bake one loaf of bread and four hours to make one pie.

95. What is Joey's opportunity cost of baking a 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: Gains from Trade
TOP: III.A. MSC: Applying

96. What is Rachel's opportunity cost of baking a 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: Gains from Trade
TOP: III.A. MSC: Applying

97. What is Joey's opportunity cost of baking a 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: Gains from Trade
TOP: III.A. MSC: Applying

98. What is Rachel's opportunity cost of baking a 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: Gains from Trade
TOP: III.A. MSC: Applying

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

ANS: B DIF: Difficult REF: Comparative Advantage
TOP: III.B. MSC: Applying

Consider the following scenario to answer the two questions that follow.

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 blanks 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	

100. Who has an absolute advantage in spreading mulch?
   a. Zuckerberg has the advantage because he gives up fewer trees each time he spreads one cubic yard of mulch.
   b. Gates has the advantage because he gives up fewer trees each time he spreads one cubic yard of mulch.
   c. Zuckerberg has the advantage because he gives up more trees each time he spreads one 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: Moderate REF: Gains from Trade
   TOP: III.A. MSC: Analyzing

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

   ANS: D DIF: Difficult REF: Finding the Right Price to Facilitate Trade
   TOP: III.C. MSC: Analyzing

102. If Elaine can produce more output from a set amount of resources than Jerry can, you know that _____ has a(n) _____ advantage.
   a. Elaine; comparative
   b. Jerry; comparative
   c. Elaine; absolute
   d. Jerry; absolute
   e. Elaine; normative

   ANS: C DIF: Easy REF: Comparative Advantage
   TOP: III.B. MSC: Applying

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

ANS: B DIF: Easy REF: Comparative Advantage
TOP: III.B. MSC: Remembering

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

ANS: D DIF: Easy REF: Comparative Advantage
TOP: III.B. MSC: Remembering

105. To determine which of two producers has a comparative advantage, you would need to know:
a. their increasing relative costs.
b. the opportunity costs of production for both goods.
c. their normative beliefs.
d. their zero-sum games.
e. their levels of investment.

ANS: B DIF: Easy REF: Comparative Advantage
TOP: III.B. MSC: Remembering

106. You have a comparative advantage in producing a good whenever:
a. you enjoy producing that good.
b. you can produce more of the good than someone else can using the same resources.
c. your opportunity cost is constant.
d. your opportunity cost of producing that good is lower than that of other producers.
e. you have specific training in the production of that good.

ANS: D DIF: Easy REF: Comparative Advantage
TOP: III.B. MSC: Remembering

107. Mrs. Abel has a comparative advantage in producing cabbage if, in comparison to Mrs. Bee, 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
TOP: III.B. MSC: Applying

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

ANS: D DIF: Easy REF: Comparative Advantage
TOP: III.B. MSC: Applying

109. Suppose Jason is a brilliant attorney who can draft especially persuasive legal briefs. He also happens to possess some excellent administrative skills such as typing, filing, assembling binders and notes, and making reservations. Which best describes whether Jason should hire an administrative assistant to help him?
a. Jason should not hire an administrative assistant because he has an absolute advantage in

performing administrative functions.

b. Jason should not hire an administrative assistant because he likely has a comparative advantage in performing administrative functions.
c. Jason should hire an administrative assistant because the assistant would likely have an absolute advantage in writing legal briefs.
d. Jason should hire an administrative assistant because the assistant would likely have a comparative advantage in performing administrative functions.
e. Jason 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
TOP: III.B. MSC: Applying

110. 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
TOP: III.C. MSC: Understanding

111. Suppose that Sheldon and Leonard can either run errands or wash dishes. Their maximum output per hour is 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 Run	Opportunity Cost of 1 Errand	Dishes Washed	Opportunity Cost of 1 Dish Washed
Sheldon	1	60 dishes	60	1/60 errand
Leonard	3	15 dishes	45	1/15 errand

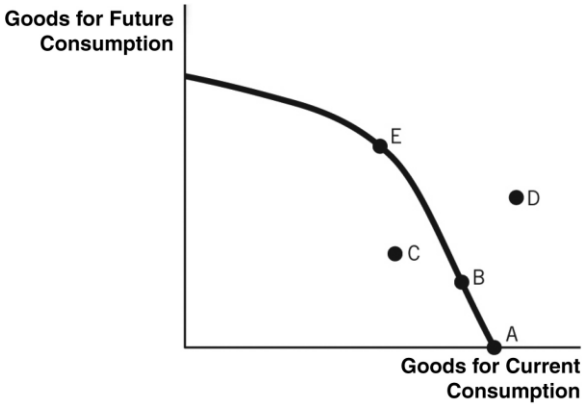
a. 1 errand run per 75 dishes washed
b. 1 errand run per 30 dishes washed
c. 1 errand run per 12 dishes washed
d. 1 errand run per 10 dishes washed
e. 1 errand run per 6 dishes washed

ANS: B DIF: Moderate REF: Finding the Right Price to Facilitate Trade
TOP: III.C. MSC: Applying

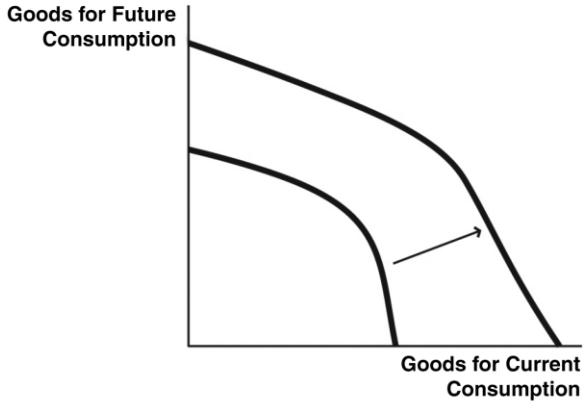
112. Which of the following would NOT lead to an outward shift of a future production possibilities frontier (PPF)?
a. population growth
b. increased investment today
c. an increase in technology
d. the discovery of new resources
e. a decline in life expectancy

ANS: E DIF: Moderate REF: Finding the Right Price to Facilitate Trade
TOP: III.C. MSC: Applying

Refer to the following figures to answer the two questions that follow.



Short-run PPF



Long-run PPF

113. 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: Finding the Right Price to Facilitate Trade
TOP: III.C. MSC: Analyzing

114. 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: Finding the Right Price to Facilitate Trade
TOP: III.C. MSC: Analyzing

115. Suppose that Dwight and Jim can either make salads or grill steaks. Their maximum output per hour is 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 Number of Salads	Opportunity Cost of 1 Salad	Maximum Number of Steaks	Opportunity Cost of 1 Steak
Dwight	9	1/3 steak	3	3 salads
Jim	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: Difficult REF: Finding the Right Price to Facilitate Trade
TOP: III.C. MSC: Analyzing

116. When money is acting as a medium of exchange, it:
a. stops you from reselling goods once they are purchased.
b. allows you to delay the purchase of goods.
c. allows you to measure the value of goods precisely.
d. allows you to make exchanges more efficiently.
e. allows you to make exchanges less efficiently.

ANS: D DIF: Moderate REF: How Does the Economy Work?
TOP: IV. MSC: Remembering

117. Why is the barter method of exchange NOT more common in the U.S. economy?
a. The double coincidence of wants frequently occurs.
b. The value of money is too low.
c. The value of money is too high.
d. The double coincidence of wants infrequently occurs.
e. The amount of money in the economy is easy to measure.

ANS: D DIF: Easy REF: The Circular Flow Model
TOP: IV.A. MSC: Remembering

118. In economic terms, how would you state what has happened when your neighbor says he is unwilling to help you mow your lawn because you are unwilling to help him teach his kids how to speak with a British accent?
a. A medium of exchange was unavailable.
b. Your neighbor's unwillingness to mow your lawn reflects a lack of ability to store value.
c. The double coincidence of wants was not satisfied.
d. Money types were not identical.
e. Your unwillingness to provide British-accent tutoring services reflects that too much paper money is available.

ANS: C DIF: Easy REF: The Circular Flow Model
TOP: IV.A. MSC: Applying

119. Money eliminated the need for the double coincidence of wants through its role as:
a. fiat, or declared, money.
b. an accounting unit.
c. something to store value.
d. a medium of exchange.
e. a hard currency.

ANS: D DIF: Moderate REF: The Circular Flow Model
TOP: IV.A. MSC: Understanding

120. Which of the following would be a consequence in an economy where there is no money?
    a. There would be no way to save for the future.
    b. There would be no way to borrow.
    c. Exchanges would occur more quickly.
    d. Exchanges would take longer.
    e. There would be no more exchange.

    ANS: D DIF: Moderate REF: The Circular Flow Model
    TOP: IV.A. MSC: Understanding

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 external factors. If we exclude something that is highly important to the outcome, however, our model will not have good predictive power and will not 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 TOP: I.C.
    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?
    TOP: II. 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, 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: Moderate REF: What Is a Production Possibilities Frontier?
TOP: II. MSC: Understanding

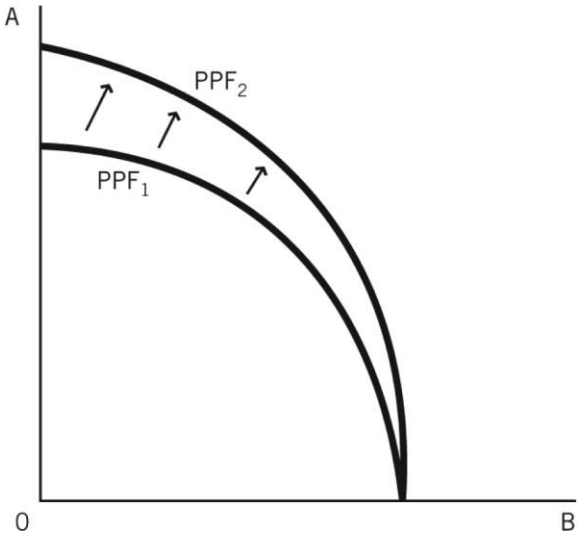
4. What does it mean when society is operating inside the production possibilities frontier (PPF)?

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?
TOP: II. 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 PPF.

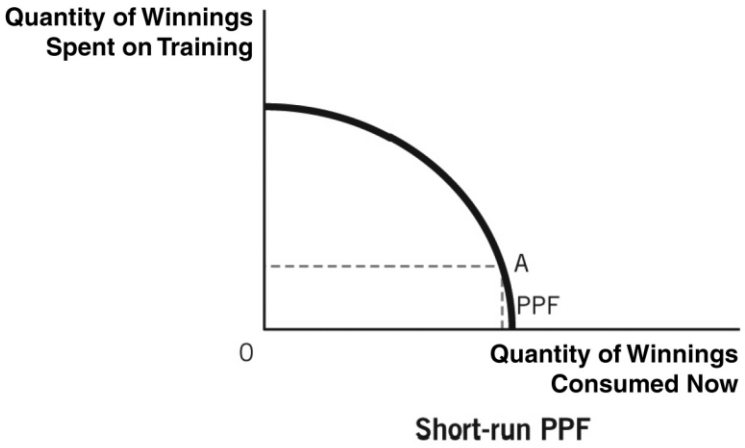
ANS:



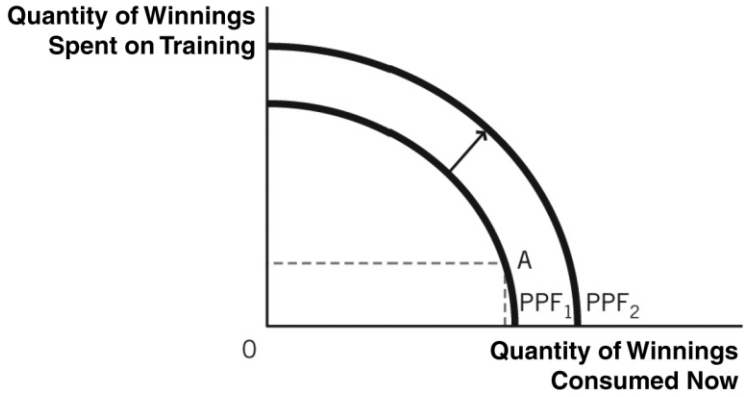
DIF: Moderate REF: The Production Possibilities Frontier and Opportunity Cost
TOP: II.A. MSC: Analyzing

6. 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 performance. Use appropriate production possibilities frontiers (PPFs) and words to describe the investment trade-off they face.

ANS:

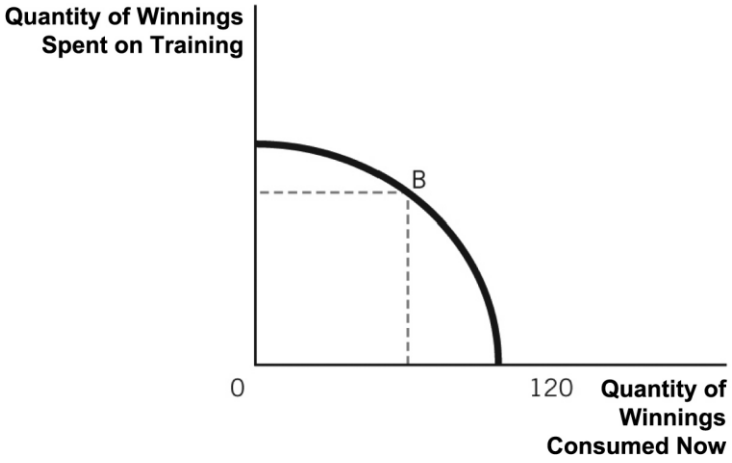


Short-run PPF

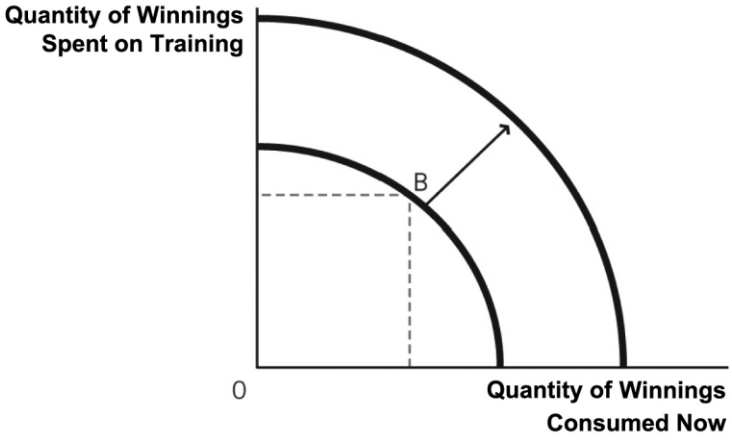


Long-run PPF

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.



Short-run PPF



Long-run PPF

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: The Production Possibilities Frontier and Opportunity Cost
TOP: II.A. MSC: Analyzing

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

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 investments in goods today that make future growth possible. However, we also value current consumption. If we invest only for the future, there would be no food, clothing, shelter, entertainment, and so forth available for current consumption. Because the opportunity cost of investing in the future is current consumption, it is not the case that investing is always preferred.

DIF: Moderate REF: The Production Possibilities Frontier and Opportunity Cost
TOP: II.A. MSC: Evaluating

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

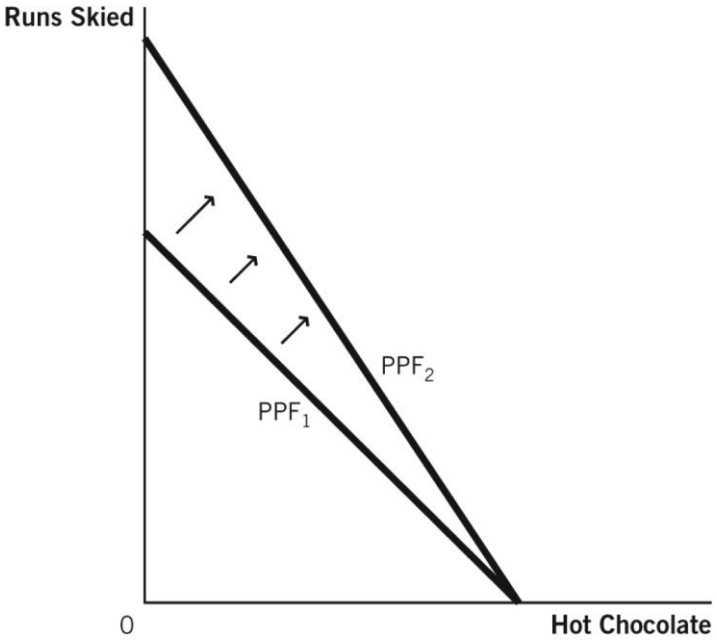
   ANS:
   The PPF shows the maximum attainable combinations of two goods given efficient use of fixed resources and technology. Without scarcity, we can all have as much of everything as we want; there is no need to choose (illustrated as a point beyond the PPF). There are no trade-offs, no constraints, 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
   TOP: II.A. MSC: Understanding

9. Suppose that, during an afternoon at your favorite ski resort, you 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 your 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. Your production of each of these goods is subject to a constant trade-off, so be sure that in your 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:

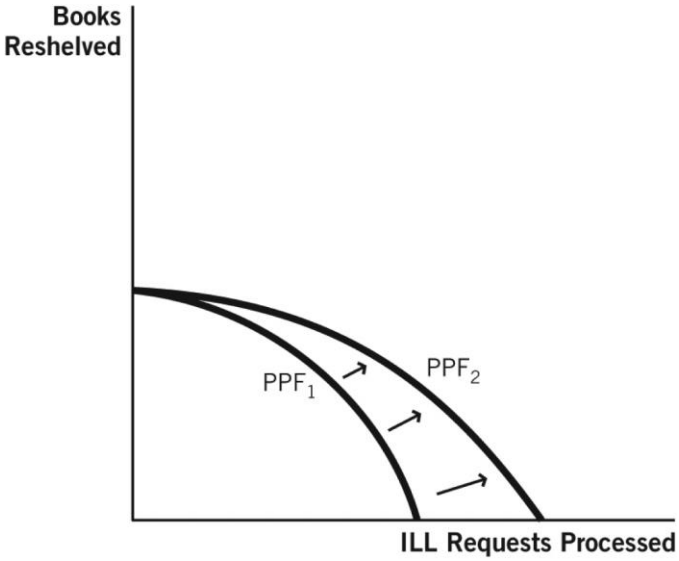


   DIF: Moderate REF: The Production Possibilities Frontier and Economic Growth
   TOP: II.B. MSC: Analyzing
   NOT: Constant opportunity cost equals a straight-line PPF. The trade-off ratio between the two options is the same anywhere along the curve.

10. Suppose that, during your afternoon shift working at the library, you could either reshelve books or process interlibrary loan (ILL) requests. Draw a production possibilities frontier (PPF) that describes your production trade-offs. Your production of each of these goods is subject to increasing relative costs in production, so be sure that your graph reflects this fact.

    Now suppose that a new online request system increases your efficiency at processing ILL requests but does not affect your reshelving ability. Show, on the same graph, how this new innovation changes the PPF.

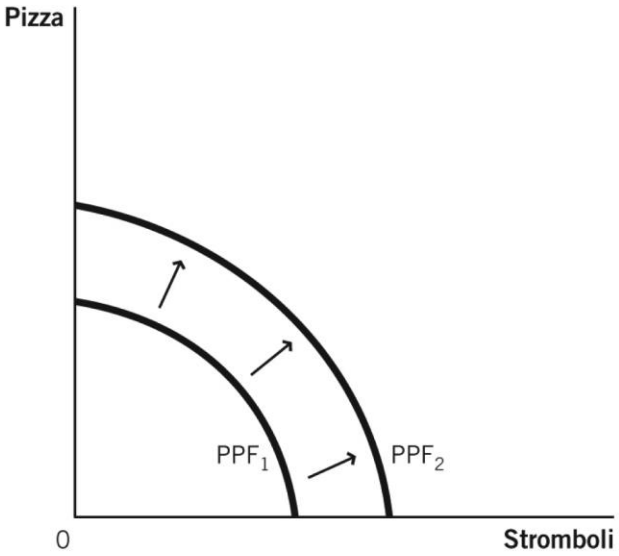
    ANS:

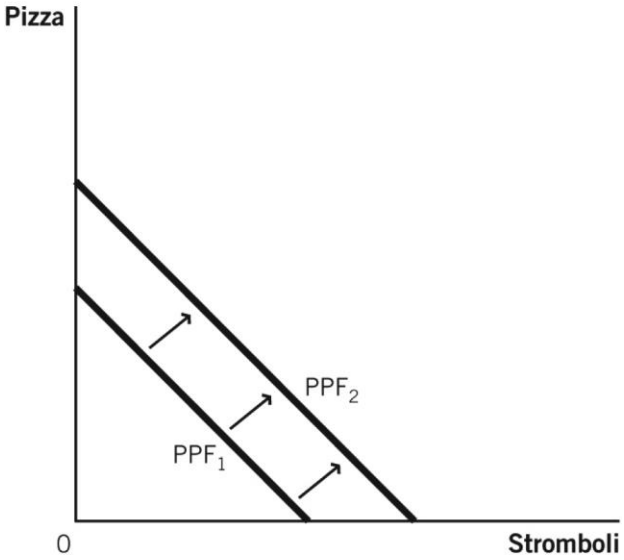


    DIF: Moderate REF: The Production Possibilities Frontier and Economic Growth
    TOP: II.B. MSC: Analyzing

11. 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
TOP: II.B. MSC: Analyzing
NOT: You could draw the graph with a concave PPF (increasing relative cost) or a straight-line PPF (constant opportunity cost). The important thing is that both ends of the PPF shift out because the new oven enhances the production of both goods.

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

DIF: Moderate REF: Comparative Advantage TOP: III.B.
MSC: Analyzing

13. The table below shows the maximum number of burgers or hot dogs that Vinny and The Situation 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
Vinny	30	60		
The Situation	50	75		

ANS:

a.

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

b. The Situation has a comparative advantage in making burgers, and Vinny has a comparative advantage in making hot dogs.

DIF: Moderate REF: Comparative Advantage TOP: III.B.
MSC: Analyzing

14. You are planning to add new mulch to all the landscaping beds around your house. You have determined the quantity of mulch you will need and have identified these two options for getting the mulch to your house:
    1. You can have all the mulch delivered to your yard in one dump truck for $450.
    2. You can make four trips to the garden center with your pickup truck and haul it yourself. It will cost you $75 per load for the mulch, plus $25 in fuel and truck wear per load. You estimate 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 yourself would cost $100 per load times four loads to get $400 out of pocket. That amount does not account, however, for the opportunity cost of your time to haul and unload the mulch yourself. The full cost of self-delivery should account for your time. The difference in the monetary cost of hauling yourself ($400) versus delivery ($450) is $50. If the opportunity cost of your time is greater than $10 per hour, you should have the mulch delivered. If your time is worth less than $10 per hour, it is cheaper to haul it yourself.

    DIF: Difficult REF: Comparative Advantage TOP: III.B.
    MSC: Analyzing

15. 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: Difficult REF: Comparative Advantage TOP: III.B.

MSC: Evaluating

16. Why might LeBron James, a 6'8" 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, LeBron James has certain occupational opportunities, like being a professional basketball player, that most movers do not possess. This suggests that LeBron's opportunity cost may be greater than that of the professional movers, giving the movers a comparative advantage. Moving himself might mean missing out on practice time, which is important for his continued high-level of performance. Because of this, LeBron can be better off hiring movers even if he has an absolute advantage in moving his possessions.

DIF: Moderate REF: Why LeBron James Has Someone Else Help Him Move?
TOP: III.C.1. MSC: Evaluating