

# Sample Midterm Exam

## Chapter 1 (3 problems)

1. In Figure 1, the equilibrium price and quantity are

- A.  $P_a$  and  $Q_a$ .
- B.  $P_b$  and  $Q_b$ .
- C.  $P_c$  and  $Q_c$ .
- D.  $P_a$  and  $Q_c$ .
- E.  $P_c$  and  $Q_a$ .

2. In Figure 1, there will be an excess supply at any price

- A. above  $P_b$ .
- B. below  $P_b$ .
- C. other than  $P_b$ .
- D. below  $P_a$ .
- E. above  $P_c$ .

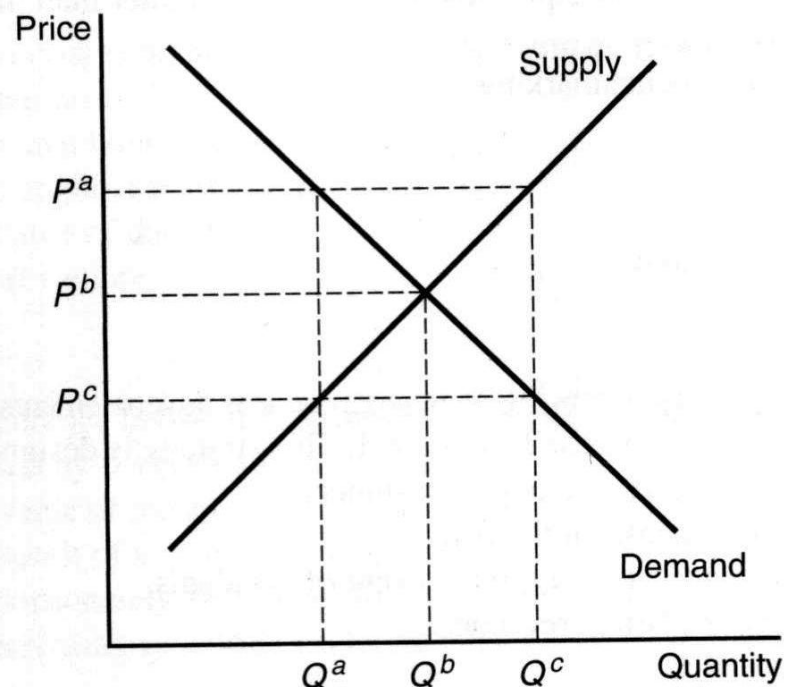


Figure 1

# Sample Midterm Exam

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3. In Figure 1, there will be an excess demand at any price
- A. below  $P_a$ .
  - B. below  $P_b$ .
  - C. other than  $P_b$ .
  - D. above  $P_b$ .
  - E. above  $P_c$ .

## Chapter 2 (3 problems)

4. The demand for fashion watches is  $Q = 9 - 0.7P + 2I$ . Assume that per capita income  $I$  is \$13. When the price of fashion watches is  $P = \$30$ , the price elasticity of demand is
- A. -0.66.
  - B. -1.0.
  - C. -2.0.
  - D. -0.5.
  - E. -1.5.

## Sample Midterm Exam

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5. Along a linear demand curve, total revenue is maximized
- A. where the slope of a line from the origin to the demand curve is equal to the elasticity.
  - B. where the elasticity is -1.
  - C. near the quantity axis intercept.
  - D. near the price axis intercept.
  - E. where the elasticity is 0.
6. "Colombia, Brazil Advance Proposal to Withhold 10 Percent of Export Output" (*Wall Street Journal*, September 23, 1991, p. B6). A Colombian delegate to the International Coffee Organization said that if all its members withheld 10 percent of export output, the international price would rise 20 percent. This statement implies the price elasticity of demand for coffee is approximately
- A. -0.00.
  - B. -5.00.
  - C. -2.00.
  - D. -0.20.
  - E. -0.50.

# Sample Midterm Exam

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## Chapter 4 (3 problems)

7. The marginal product of labor can be illustrated geometrically as the
- A. slope of the total product curve with respect to labor.
  - B. slope of the total product curve with respect to capital.
  - C. slope of a chord from the origin out to the total product curve at the specified level of labor.
  - D. inverse of the slope of a chord from the origin out to the total product curve at the specified level of labor.
  - E. slope of the total product curve with respect to labor divided by the slope of the total product curve with respect to capital.
8. If output is produced according to  $Q = 12K^{.5}L^{.5}$ , the price of  $K$  is \$2, the price of labor is \$2, and the price of  $Q$  is \$100, the marginal profit at the optimal combination of inputs that cost \$100 is
- A. \$99.67.
  - B. \$299.
  - C. \$598.
  - D. \$0.
  - E. \$597.

# Sample Midterm Exam

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9. If rice can be produced using water and seed according to  $Q = WS$ , water costs \$3 and seed costs \$3, what is the cost minimizing combination of water and seed capable of producing 144 units of rice?
- A.  $W = 64, S = 0$ .
  - B.  $W = 0, S = 64$ .
  - C.  $W = 1, S = 64$ .
  - D.  $W = 8, S = 8$ .
  - E.  $W = 12, S = 12$ .

## Chapter 5 (2 problems)

10. If Hilltop Turf Farm's total cost of producing acres of sod is  $TC = 0.2Q^2 + 120Q + 5,000$ , the marginal cost of producing the fiftieth acre of sod is
- A. \$110.
  - B. \$120.
  - C. \$130.
  - D. \$140.
  - E. \$150.

# Sample Midterm Exam

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11. If total cost is given by  $TC = a + bQ - cQ^2 + dQ^3$ , then average variable cost is minimized at \_\_\_\_\_ units of output.

A.  $Q^* = a / 2d$

B.  $Q^* = b / 2d$

C.  $Q^* = c / 3d$

D.  $Q^* = c / 2d$

E.  $Q^* = d / 2c$

# Sample Midterm Exam

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## Chapter 6 (3 problems)

The following information applies to problems 15 and 16: Suppose a representative firm exists with total cost given by  $TC = 20 + 20q + 5q^2$ . This firm operates in a competitive industry where the short-run market demand and supply curves are given by  $QD = 1,400 - 40P$  and  $QS = -400 + 20P$ .

12. The short-run profit maximizing level of output for this firm is:
- A. 1 unit.
  - B. 2 units.
  - C. 4 units.
  - D. 5 units.
  - E. 6 units.

# Sample Midterm Exam

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13. If this firm continues to operate in the long run, its profit maximizing level of output will be:
- A. 1 unit.
  - B. 2 units.
  - C. 4 units.
  - D. 5 units.
  - E. 6 units.
14. Kenny's Cartage hauls crushed stone for \$15 a ton and has total costs given by  $TC = 100 + 5Q + Q^2$ . The profit maximizing level of output is
- A. 5 tons.
  - B. 2.1 tons.
  - C. 10 tons.
  - D. 20 tons.
  - E. 0 tons.



# Sample Midterm Exam

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## Chapter 7 (4 problems)

15. In the model of monopoly, there

- A. are many firms producing differentiated products.
- B. are a few firms producing undifferentiated products.
- C. are a few firms producing differentiated products.
- D. are many firms producing undifferentiated products.
- E. is one firm producing a highly differentiated product.

16. Craig's Red Sea Restaurant is the only restaurant in Columbia, South Carolina, that sells Ethiopian food. The demand for Ethiopian food is given by  $Q = 25 - P$ . Craig's costs are given by  $TC = 25 + Q + 5Q^2$ . Its maximum monopoly profit is

- A. -\$1.
- B. \$21.
- C. \$22.
- D. \$24.
- E. \$26.

## Sample Midterm Exam

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17. If a monopolist faces a constant elasticity of demand curve given by  $Q = 202,500P^{-3}$  and has total costs given by  $TC = 10Q$ , its profit maximizing level of output is
- A. 50.
  - B. 60.
  - C. 75.
  - D. 100.
  - E. 120.
18. If elasticity of demand is -3, marginal cost is \$5, and average cost is \$7, the price at which profit is maximized is
- A. \$5.
  - B. \$6.25.
  - C. \$7.50.
  - D. \$8.75.
  - E. \$10.

# Sample Midterm Exam

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## Chapter 10 (3 problems)

19. In the United States most cartels were declared illegal by the
- A. Sherman Antitrust Act.
  - B. Interstate Commerce Commission.
  - C. Supreme Court.
  - D. Constitution.
  - E. Declaration of Independence.
20. When an economist says an oligopoly has a "small" number of firms, the economist means
- A. exactly 1.
  - B. exactly 2, 3, or 4.
  - C. few enough to allow for interdependence.
  - D. few enough to allow for perfectly inelastic demand curves.
  - E. few enough to allow for four stages of industry development.

# Sample Midterm Exam

Use the following information to answer questions 21-22.

21. The optimal output and price for the cartel shown in the diagram is

- A.  $Q = 200$  and  $P = \$80$ .
- B.  $Q = 260$  and  $P = \$60$ .
- C.  $Q = 250$  and  $P = \$80$ .
- D.  $Q = 250$  and  $P = \$75$ .

22. If the cartel described by the diagram is broken up and forced into a perfectly competitive market situation, the optimal output and price will be

- A.  $Q = 200$  and  $P = \$80$ .
- B.  $Q = 260$  and  $P = \$60$ .
- C.  $Q = 250$  and  $P = \$80$ .
- D.  $Q = 250$  and  $P = \$75$ .

