

Use this table to answer questions 1-4:

Q	ATC	AVC	MC
1	44	4	4
2	28	8	12
4	26	16	32
6	30.67	24	48
8	37	32	64

- At a price of \$12, how many units of output will this firm produce in the **short run**?
 - 0 (since closed in short run)
 - 2
 - 4
 - 6
 - 8
- At a price of \$12, how many units of output will this firm produce in the **long run**?
 - 0 (since closed in long run)
 - 2
 - 4
 - 6
 - 8
- What is the profit (or loss) at price of \$12 in the **short run**?
 - \$32
 - \$24
 - \$56
 - \$8
 - \$4
- How much are fixed cost?
 - \$0
 - \$12
 - \$16
 - \$44
 - \$40
- Which of the following is **not** an assumption of the theory of perfect competition?
 - There are many sellers and many buyers
 - All firms in the market sell an identical product
 - The government sets the price
 - All consumers and firms have perfect information
 - Firms can enter and exit freely
- If a firm earns zero economic profits in short-run and zero economic profits in the long-run, then the firm should:
 - Close in short-run; open in long-run
 - Close in short-run and long-run
 - Open in short-run and closed in long-run
 - Open in short-run and long-run.

7. The wheat market is characterized as a perfectly competitive market and a decreasing cost industry. The current **long-run** equilibrium price of wheat is \$1 per bushel. If there is an increase in demand, then the new **long-run** equilibrium price of wheat will be:

- A. above \$1.
- B. \$1.
- C. below \$1.

Use the following information to answer questions #8 - #10. A perfectly competitive firm has a total cost function of: $TC = 0.5Q^2 - 5Q + 12$ and $MC = Q - 5$. The firm faces a price of \$12.

8. How much are fixed costs?

- A. 5
- B. 8
- C. 7
- D. 10
- E. 12

9. How much quantity in the short-run should the firm sell?

- A. 0 (better to be closed in the short-run)
- B. 17
- C. 7
- D. 8.5
- E. 13

10. In the short-run, how much profit does the firm earn (or lose)?

- A. 0
- B. 124.5
- C. 59.5
- D. -71.5
- E. 132.5

11. What is a natural monopoly?

- A. monopolies that occur in the agricultural business.
- B. monopolies that occurs due to economies of scale.
- C. monopolies that occur when one company controls indispensable inputs
- D. monopolies that occur from patents
- E. monopolies created from mergers

Use the following information to answer questions 12-14: the demand in the perfectly competitive cotton industry is: $P = 70 - Q$, the $MC = 10 + 2Q$.

12. Find the profit maximizing output in the perfectly competitive cotton industry in the **short-run**.

- A) 5
- B) 8
- C) 10
- D) 15
- E) 20

13. Find the profit maximizing price in the perfectly competitive cotton industry in the **short-run**.

- A) \$20
- B) \$55
- C) \$50
- D) \$60
- E) \$25

14. Find the consumer surplus in the perfectly competitive cotton industry (Hint, graph your answers from the previous two questions).

- A) \$112.50
- B) \$50
- C) \$600
- D) \$400
- E) \$200

15. A grocery store should close at night if the

- A. total cost of staying open exceed the total revenue due to staying open.
- B. total cost of staying open are less than the total revenue from staying open.
- C. variable cost of staying open are greater than the total revenue due to staying open.
- D. variable cost of staying open are less than the total revenue due to staying open.

16. Charging different prices for the identical good is known as:

- A. product differentiation
- B. mark-up pricing
- C. price leadership
- D. price discrimination
- E. marginal cost pricing

17. True or False: If a firm is losing money in the short-run, then it is should close immediately.

- A. True
- B. False

18. True or False: Both perfectly competitive firms and monopolists can earn profits in the short-run.

- A. True
- B. False

19. When should a monopolist close in the long-run?

- A. If $ATC > AFC$
- B. If $MC > P$
- C. If $AVC > MC$
- D. If $ATC > P$
- E. If $ATC > MC$

20. At a price of \$24, the monopolist is current producing: $Q = 10$, the $ATC = \$12$, $AVC = \$8$, $MR = \$10$ & $MC = \$16$. How can this monopolist increase profits?

- A. Increase quantity.
- B. Reduce quantity.
- C. Keep quantity the same since already maximizing profits.
- D. Shut down since losing money.

Extra credit: (+2.5 points each) To be eligible to answer these extra credit questions, your cell phone must not have rung in class since Test #2...and you must be taking this test in class at the regular scheduled time.

21. Why are farmers planting so much corn this year?

- a. Good weather is predicted for corn growing
- b. Global warming
- c. A new corn seed has been recently introduced
- d. Soy beans have been losing money
- e. Increased demand for ethanol

22. Who is currently the Vice-President of the United States?

- a. Donald Rumsfeld
- b. Condeleezza Rice
- c. Dick Cheney
- d. Marshall Mathers
- e. Calvin Broadus

II. Discussion Questions (12.5 points per discussion question)

1. Suzie Q operates a small hair salon business in Springfield. She receives \$20 for each hair cut (q), where q is the number of hair cuts performed by Suzie each week. Suzie finds that her marginal cost per hair cut is: $MC = 0.1q + 2$. In addition to her marginal cost, Suzie also has \$200 each week in fixed costs. Hence her total costs are: $TC = 200 + 2q + 0.05q^2$

a. How many hair cuts should Suzie perform each week (if any)?

b. On a graph, show Suzie's profit maximizing output (if any). Label all curves, axes, and intercepts.

c. Calculate Suzie's weekly short-run profit.

d. Is Suzie open or close in the Short-run?

e. In the long-run what do you expect to happen in the hair-salon market in Springfield? Why?

2. There are 10 identical firms in the textbook industry. Each has the same short-run marginal cost of: $SMC = 2 + 4Q$. The demand curve for textbooks is: $P = 23 - Q$

A. Find the market supply curve.

B. Graph the market supply curve and market demand curve on one graph below. *Label all axes & curves!*

C. On the graph above, pin stripe the consumer surplus region & lightly shade the producer surplus.

D. How much is the consumer surplus? How much is the producer surplus?

3. A monopoly has an inverse demand curve of: $Q = 120 - 4P$ and total cost: $TC = 20Q$ and marginal cost: $MC = 20$.

A. Graph the demand curve below.

P



B. Find the profit maximizing quantity.

C. Find the profit maximizing price.

- D. On the above graph (from A), pin stripe the producer surplus.
- E. On the same above graph, heavily shade the consumer surplus.
- F. On the same above graph, lightly shade the deadweight loss.

4. A perfectly price discriminating monopolist has demand: $P = 100 - Q$ and marginal cost: $MC = Q$.

A. How much output does the perfectly price discriminating monopolist produce?

B. If fixed costs are zero, show the profit on a graph for the perfectly price discriminating monopolist.

P

Q

C. How much profit does the perfectly price discriminating monopolist earn?