

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

1. At a price of \$12, how many units of output will this firm produce in the **short run**?

- A) 0 (since closed in short run)
- B) 2
- C) 4
- D) 6
- E) 8

2. At a price of \$12, how many units of output will this firm produce in the **long run**?

- A) 0 (since closed in long run)
- B) 2
- C) 4
- D) 6
- E) 8

3. What is the profit (or loss) at price of \$12 in the **short run**?

- A) \$0
- B) \$24
- C) -\$24
- D) -\$56
- E) -\$32

4. How much are fixed cost?

- A) \$0
- B) \$12
- C) \$16
- D) \$24
- E) \$40

5. Which of the following is the definition for **consumer surplus**?

- A. Total revenue – Total cost
- B. Total revenue – Total variable cost
- C. Total revenue – Fixed cost
- D. Willing to pay – price actually paid
- E. Price – Average total cost

6. Which of the following is the definition for **producer surplus**?

- A. Total revenue – Total cost
- B. Total revenue – Total variable cost
- C. Total revenue – Fixed cost
- D. Willing to pay – price actually paid
- E. Price – Average total cost

7. What is the definition of **marginal revenue**?

- A. the additional output when you spend \$1 more renting a machine
- B. the additional output when you spend \$1 more hiring a worker
- C. the additional revenue from producing 1 more unit of output
- D. the additional cost of producing 1 more unit of output
- E. the additional profit from producing 1 more unit of output

Use the following information to answer questions #8 - #10. A perfectly competitive firm has a total cost function of: $TC = 0.5Q^2 - 5Q + 10$ and $MC = Q - 5$. The firm faces a price of \$7.

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. 5
- C. 7
- D. 10
- E. 12

10. How much profit does the firm earn?

- A. 0
- B. 22
- C. 12
- D. 84
- E. 62

11. The difference between economic profit and accounting profit is due to a different definition for:

- A. total revenue
- B. price
- C. implicit cost
- D. explicit cost
- E. marginal cost

Use the following information to answer questions 12-14: the demand in the perfectly competitive cotton industry is: $P = 100 - 5Q$, the $MC = 10 + Q$.

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) \$75
- C) \$50
- D) \$60
- E) \$25

14. Find the consumer surplus in the perfectly competitive cotton industry (Hint, graph it).

- A) \$562.50
- B) \$160
- C) \$62.50
- D) \$1000
- E) \$250

15. Which of the following is **not** an assumption of the theory of perfect competition?
- A. There are many sellers and many buyers
 - B. All firms in the market sell an identical product
 - C. Prices are free to adjust
 - D. All consumers and firms have perfect information
 - E. All consumers are quantity-takers
16. Theaters typically charge different prices for children, adults, & senior citizens. This is an example of:
- A. product differentiation
 - B. mark-up pricing
 - C. price leadership
 - D. price discrimination
 - E. marginal cost pricing
17. Which of the following factors does **not** lead to a monopoly?
- A. control over a key input
 - B. diseconomies of scale
 - C. patent
 - D. government licenses
18. Proctor and Gamble is the sole seller of Crest toothpaste. Therefore economists would say that Proctor and Gamble is a monopoly.
- A. True
 - B. False
19. True or False: All monopolists in the short and long-run earn economic profits.
- A. True.
 - B. False.
20. At a price of \$32, the monopolist is current producing: $Q = 10$, the $ATC = \$12$, $AVC = \$8$, $MR = \$20$ & $MC = \$16$. 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)

21. **In the short-run**, US Airways should shutdown if airline ticket prices are less than:
- a. Average fixed cost
 - b. Marginal cost
 - c. Implicit cost
 - d. Average variable cost
 - e. Average total cost
22. **In the long run**, what prevents firms in perfect competition from making economic profits?
- A) Taxes
 - B) Economies of scale
 - C) Entry
 - D) Diseconomies of scale
 - E) Law of diminishing returns

II. Discussion Questions (12.5 points per discussion question)

1. A perfectly competitive firm has the cost curves: $MC = 4 + 4Q$ and $AVC = 4 + 2Q$.

a. How many units of output (if any) will it produce at a market price of \$16?

b. What level of fixed costs will this firm earn zero economic profit?

c. Lightly shade the producer surplus in the graph below. ***Label all axes & curves!***

d. How much is the producer surplus?

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

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 a demand curve of: $P = 120 - Q$ and total cost: $TC = 10Q$ and marginal cost: $MC = 10$.

A. Find the profit maximizing quantity.

B. Find the profit maximizing price.

C. Find the profit.

D. On a graph below pin stripe the producer surplus.

E. On the same graph, heavily shade the consumer surplus.

F. On the same graph, lightly shade the deadweight loss.

4. Given fixed cost = \$100 and marginal cost = \$8 per unit produced.

Total Product	P	TC	TR	MR	Profit
0	21			--	
1	20				
2	19				
3	18				
4	17				
5	16				
6	15				
7	14				
8	13				
9	12				
10	11				

- Fill in every blank in the table above. (4.5 points)
- Will this monopolist produce in the short run? If yes, how much does it produce? (2 points)
- Will this monopolist produce in the long run? If yes, how much will it produce? (2 points)
- How much profit or loss does the monopolist incur in the short run? (2 points)
- How much profit or loss does the monopolist incur in the long run? (2 points)

Test #3 – Key

- B
- A
- E
- E
- D
- B
- C
- D
- E
- E
- E
- D
- B
- B
- B
- A
- D
- D
- C