Microeconomics: Unit III

Cost of Production & Theory of the Firm

1. Firms face certain types of costs that increase as output increases and other types of costs that are independent of output. These two costs respectively are

   (A) fixed and variable
   (B) variable and fixed
   (C) fixed and total
   (D) flexible and variable
   (E) flexible and total

Questions 2 – 4 refer to the table below.

Output	Total Revenue	Variable Cost	Fixed Cost	Total Cost
0	_____	_____	_____	100
1	_____	40	_____	_____
2	_____	60	_____	_____
3	120	75	_____	_____
4	_____	85	_____	_____
5	_____	95	_____	_____
6	_____	120	_____	_____
7	_____	200	_____	_____

2. Based on the information in the table above, the total cost of producing 6 units of output is

   (A) 100
   (B) 120
   (C) 150
   (D) 220
   (E) 240

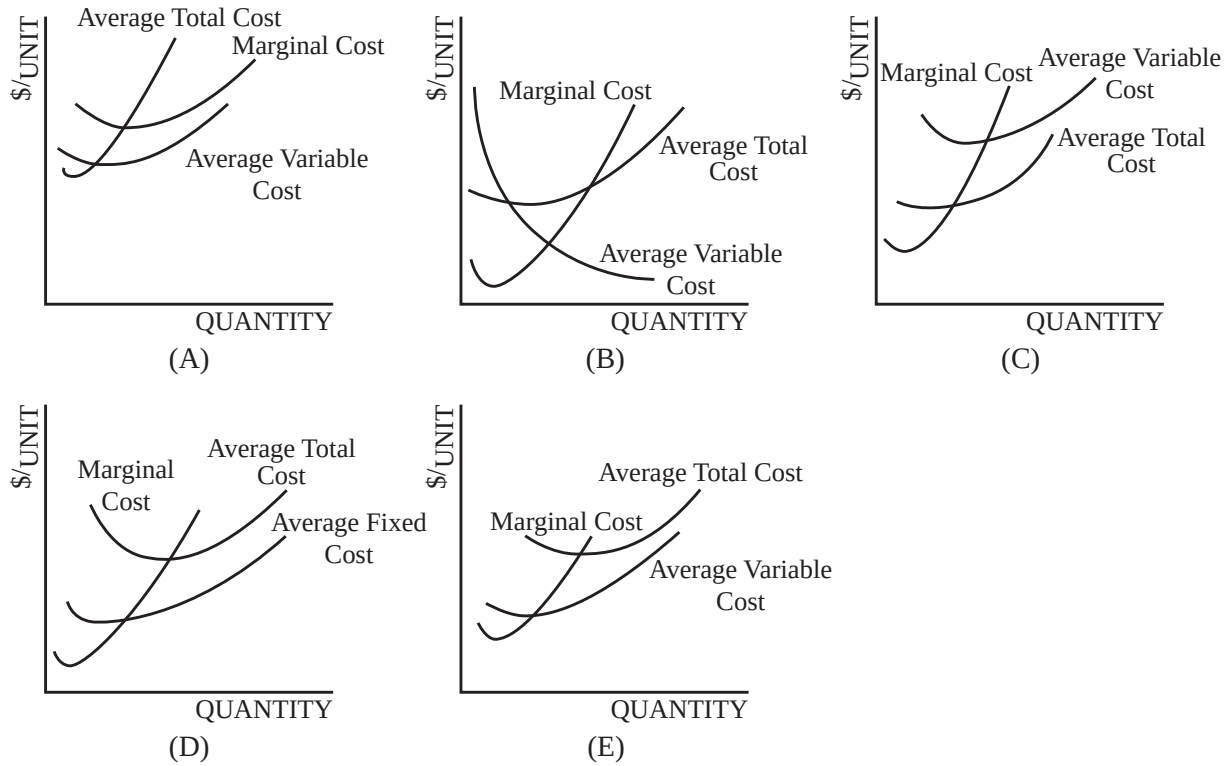
3. Based on the information in the table above, the marginal cost of producing the 3rd unit of output is

   (A) 10
   (B) 15
   (C) 20
   (D) 75
   (E) 175

4. Based on the information in the table above, the price of the product this firm is selling is

(A) $20
(B) $40
(C) $100
(D) $120
(E) not able to be determined from the information given

Question 5 refers to the graphs below.



5. Which set of cost curves in the graphs above are correctly drawn?

(A) A
(B) B
(C) C
(D) D
(E) E

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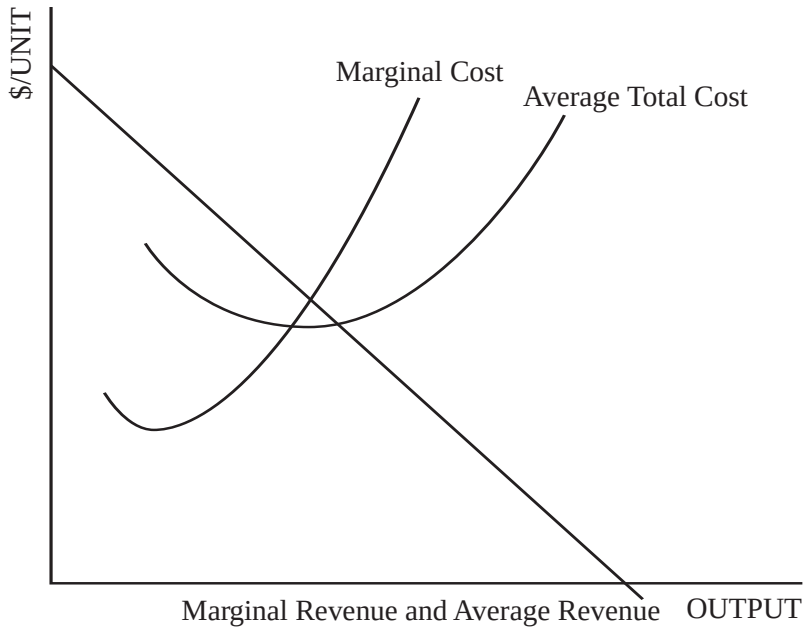
6. A typical marginal cost curve for a firm rises because

   (A) marginal product increases
   (B) marginal product remains constant
   (C) marginal product decreases
   (D) fixed costs rise
   (E) fixed costs fall

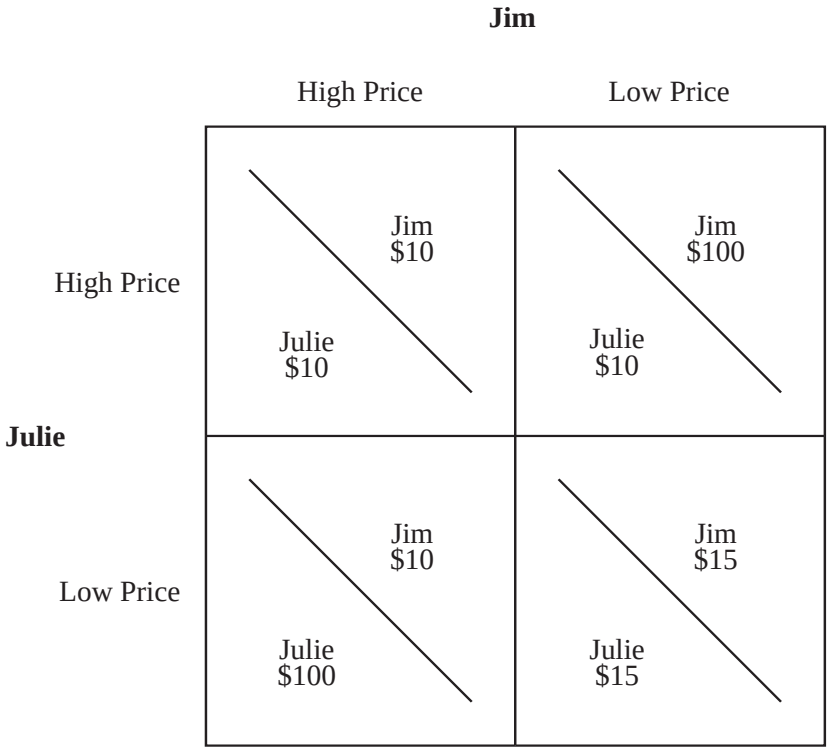
Question 7 refers to the graph below.



7. The firm depicted in the graph above is

   (A) a perfectly competitive firm
   (B) a perfectly price discriminating monopoly
   (C) a single price monopoly
   (D) an oligopoly in the long-run
   (E) monopolistically competitive firm in the long-run

Questions 8 and 9 refer to the table below.



8. Based on the information in the payoff matrix box depicted above, what can be concluded?

   (A) Jim and Julie will each charge a low price
   (B) Jim and Julie will each charge a high price
   (C) Jim will charge a high price and Julie will charge a low price
   (D) Jim will charge a low price and Julie will charge a high price
   (E) no conclusion can be accurately drawn from the information given

9. Based on the information in the payoff matrix box depicted above, what can be concluded?

   (A) Jim has a dominant strategy and Julie does not
   (B) Jim and Julie both have a dominant strategy
   (C) Jim and Julie do not have a dominant strategy
   (D) Jim does not have a dominant strategy but Julie does
   (E) no conclusion can be accurately made from the information given in regards to dominant and non-dominant strategy

10. The three basic forms of business organization are

    (A) proprietorship, partnership, monopoly
    (B) proprietorship, partnership, competition
    (C) proprietorship, partnership, corporation
    (D) proprietorship, monopoly, competition
    (E) monopoly, competition, oligopoly

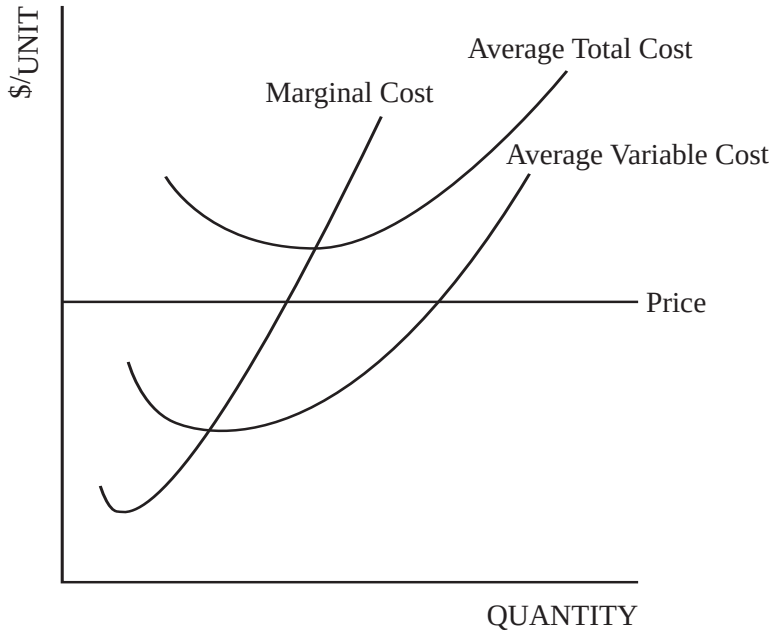
11. Firms in all market structures seek to

    (A) maximize price and therefore maximize profit
    (B) minimize cost and therefore maximize profit
    (C) operate where MC = MR and are therefore guaranteed a profit
    (D) maximize profit
    (E) no conclusion can be accurately drawn for firms in all market structures in regard to profit maximizing behavior

12. If fixed costs for a firm operating under conditions of perfect competition increased, but not enough to lead the firm to shut down, how would that change in fixed cost affect each of the following?

	Output	Profit	Price
(A)	no change	no change	no change
(B)	no change	decrease	no change
(C)	no change	decrease	increase
(D)	decrease	decrease	increase
(E)	decrease	decrease	no change

Question 13 refers to the graph below.



13. The graph above depicts a firm facing which combination of events?

	Profits	Entry or exit of firms to this market
(A)	positive	firms entering the market in the long run
(B)	positive	firms exiting the market in the long run
(C)	normal	firms stable in the market in the long run
(D)	negative	firms entering the market in the long run
(E)	negative	firms exiting the market in the long run

14. Marginal cost can be calculated by

(A) adding total cost at two consecutive units of output
(B) subtracting total cost at two consecutive units of output
(C) adding fixed and variable cost
(D) subtracting fixed cost from total cost
(E) subtracting variable cost from total cost

15. Which of the following sets correctly ranks markets structures from most competitive to least competitive?

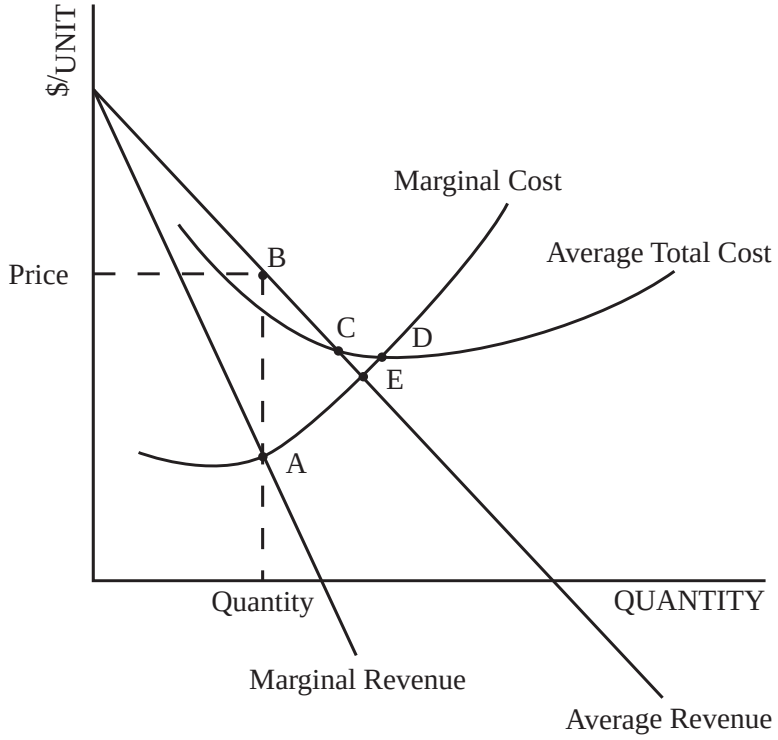
(A) monopoly, oligopoly, monopolistic competition, perfect competition
(B) monopoly, monopolistic competition, oligopoly, perfect competition
(C) perfect competition, oligopoly, monopolistic competition, monopoly
(D) perfect competition, monopoly, oligopoly, monopolistic competition
(E) perfect competition, monopolistic competition, oligopoly, monopoly

16. Which of the following are necessary for a firm to be able to engage in price discrimination?

I. Subdivide the market
II. Prevent resale
III. Monopoly power

(A) III only
(B) I and II only
(C) I and III only
(D) II and III only
(E) I, II, and III

Question 17 refers to the graph below.



17. Based on the graph above, the monopoly price, break even price, and socially optimum price are respectively,

(A) A, B, C
(B) E, C, B
(C) C, D, E
(D) B, C, D
(E) B, C, E

Question 18 refers to the table below.

Figures in the table represent output.

UNITS OF CAPITAL INPUT			
3	40	50	60
2	30	40	50
1	20	30	40
	1	2	3

UNITS OF LABOR INPUT

18. The information in the table above is representative of a firm with

(A) diminishing returns to labor and constant returns to scale
(B) increasing returns to labor and constant returns to scale
(C) diminishing returns to labor and increasing returns to scale
(D) diminishing returns to labor decreasing returns to scale
(E) constant returns to labor and constant returns to scale

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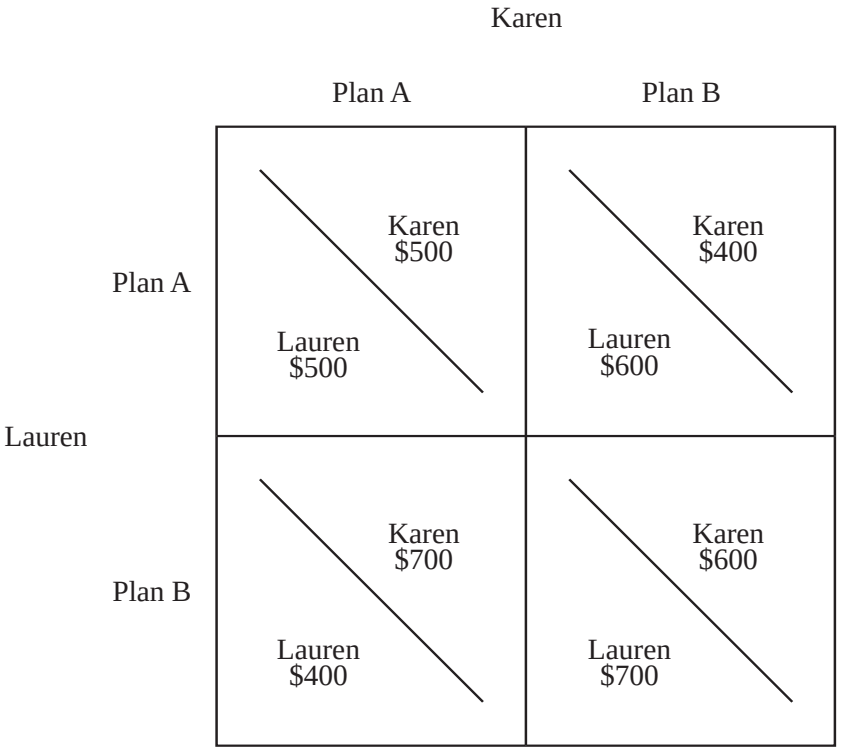
19. Which of the following is true for both a perfect competitor and a monopolistic competitor in long-run equilibrium?

(A) They produce an output where they earn normal profits.
(B) They produce an allocatively efficient level of output.
(C) They produce a productively efficient level of output.
(D) They produce an output where MC = MR and ATC is at a minimum.
(E) They produce an output that is socially optimal.

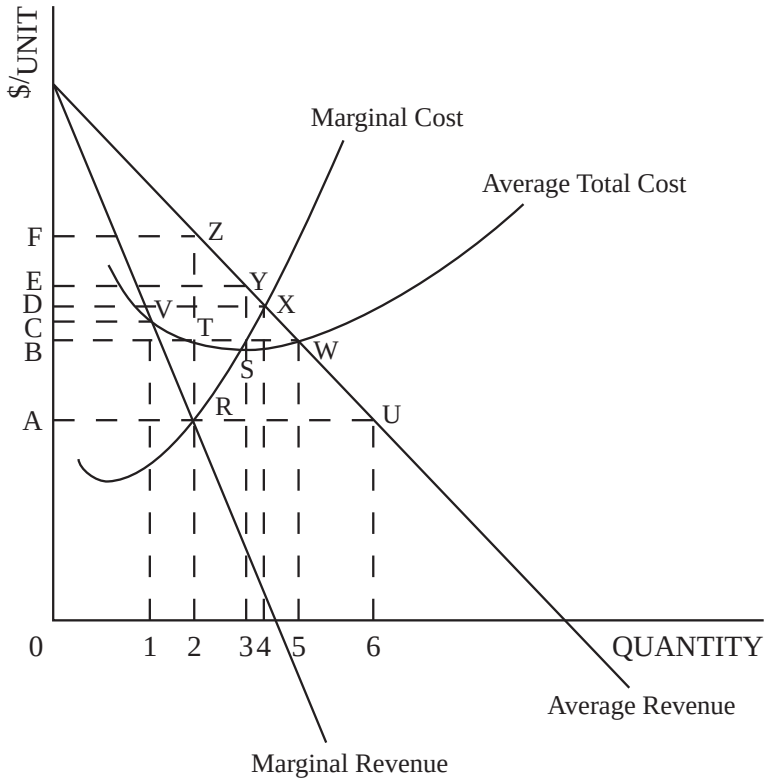
Question 20 refers to the table below.



20. Which of the following is true on the basis of the table above?

(A) Karen has a dominant strategy but Lauren does not
(B) Lauren has a dominant strategy but Karen does not
(C) Karen and Lauren both have a dominant strategy
(D) neither Karen nor Lauren have a dominant strategy
(E) no conclusion can be made in regard to dominant strategy from the information given

Questions 21 – 23 refer to the graph below.



21. What area in the graph above describes total revenue?

(A) A, R, 2, 0
(B) F, Z, 2, 0
(C) B, W, 5 0
(D) D, X, 4, 0
(E) A, U, 6, 0

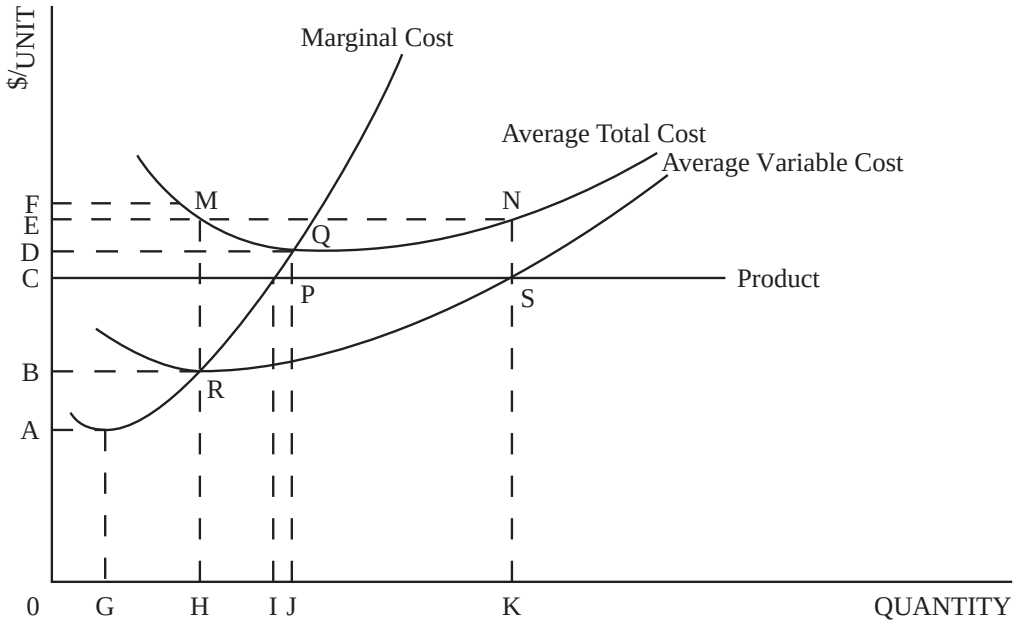
22. What area in the graph above describes total cost?

(A) A, R, 2, 0
(B) F, Z, 2, 0
(C) D, X, 4, 0
(D) B, T, 2, 0
(E) B, W, 5, 0

23. What area in the graph above represents profit or loss?

(A) a loss of A, R, 2, 0
(B) a profit of F, Z, 2, 0
(C) a profit of F, Z, R, A
(D) a loss of F, Z, T, B
(E) a profit of F, Z, T, B

Question 24 and 25 refer to the graph below.



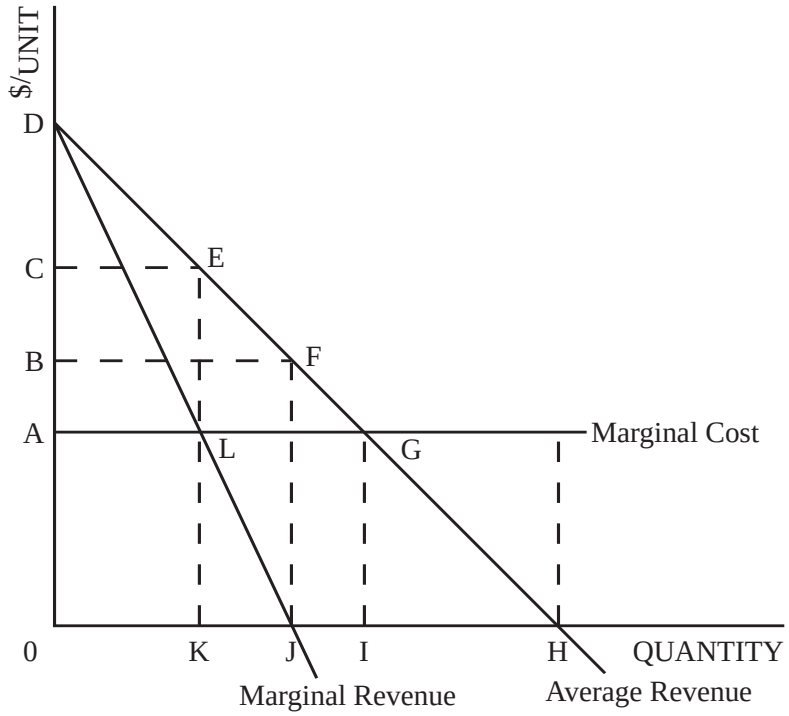
24. At what quantity in the graph above are average total costs minimized?

(A) G
(B) H
(C) I
(D) J
(E) K

25. Based on the information in the graph above, total fixed cost is equal to

(A) E, M, H, 0
(B) B, R, H, 0
(C) C, S, K, 0
(D) D, Q, J, 0
(E) E, N, S, C

Questions 26 – 28 refer to the graph below.



26. Based on the information in the graph above, the area of consumer surplus is represented by the area

(A) D, H, 0
(B) D, E, C
(C) D, J, 0
(D) C, E, L, A
(E) A, L, K, 0

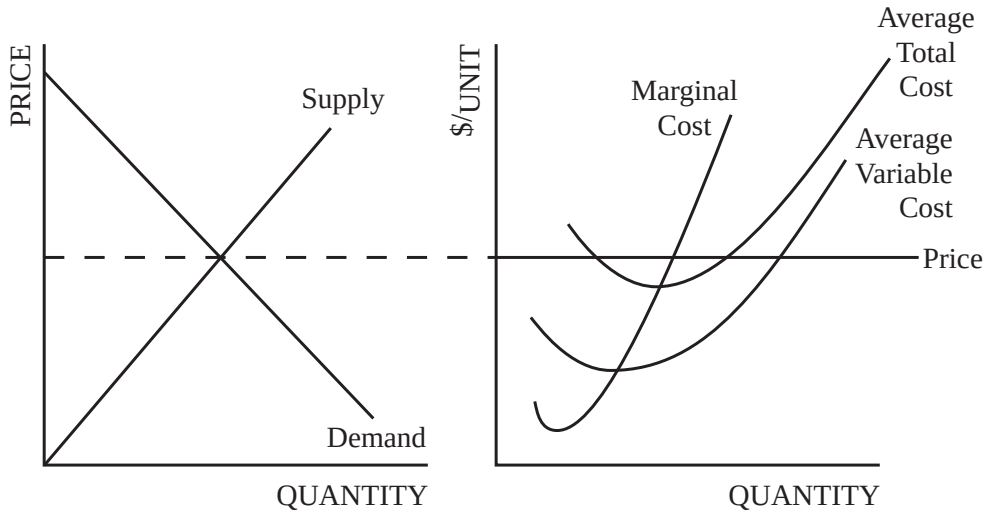
27. Based on the information in the graph above, the amount of profit is represented by the area

(A) D, H, 0
(B) D, E, C
(C) D, J, 0
(D) C, E, L, A
(E) A, L, K, 0

28. Based on the information in the graph above, the amount of deadweight loss due to monopoly is represented by the area

(A) D, H, 0
(B) D, E, C
(C) D, J, 0
(D) E, G, L
(E) C, E, L, A

Question 29 and 30 refer to the graphs below.



29. Based on the information in the graph above, which of the following is correct?

(A) graph A is for the market and graph B is for the firm
(B) graphs A and B are for the market
(C) graphs A and B are for the firm
(D) graph A is for the firm and graph B is for the market
(E) graph A is for a perfectly competitive firm and graph B is for a monopoly

30. Based on the information in the graph above, which of the following is correct?

(A) firms will enter the market and drive the price down
(B) firms will enter the market and drive the price up
(C) firms will exit the market and drive the price up
(D) firms will exit the market and drive the price down
(E) firms will neither enter not exit the market and price will remain stable

Free-Response Questions

1. Demonstrate each of the following using correctly labeled side-by-side graphs for a firm operating in long-run equilibrium in a perfectly competitive market.

   (a) If only this firm discovers a technological breakthrough that lowers the variable cost of production show what will happen to the following:
   - i. the price charged by the firm
   - ii. the quantity produced by the firm
   - iii. the profit of the firm

   (b) Show what will happen to each of the following if, in the long run, all of the firms in the industry adopt the new technology:
   - i. the price charged by the firm
   - ii. the quantity produced by the firm
   - iii. the profit of the firm

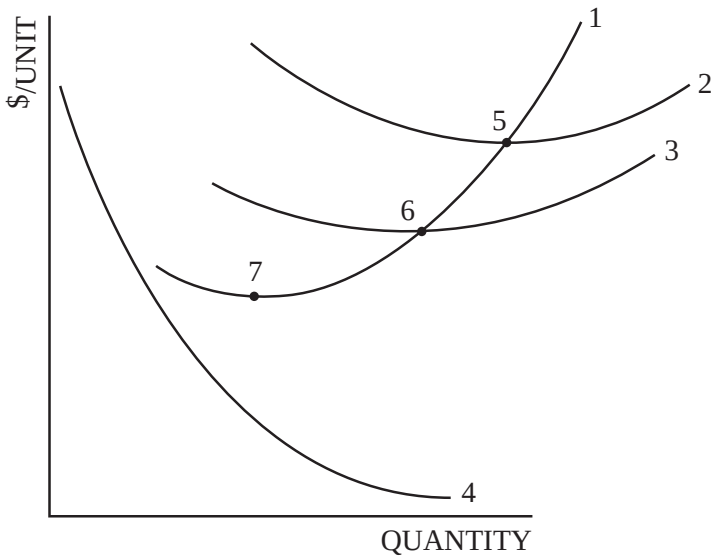
   Now assume that the product becomes more popular with consumers:

   (c) What will happen to the price and output in the market in the short run?

   (d) How will this affect a typical firm?

   (e) What will be the long-run effect on price and output in this market? Explain why.

2.

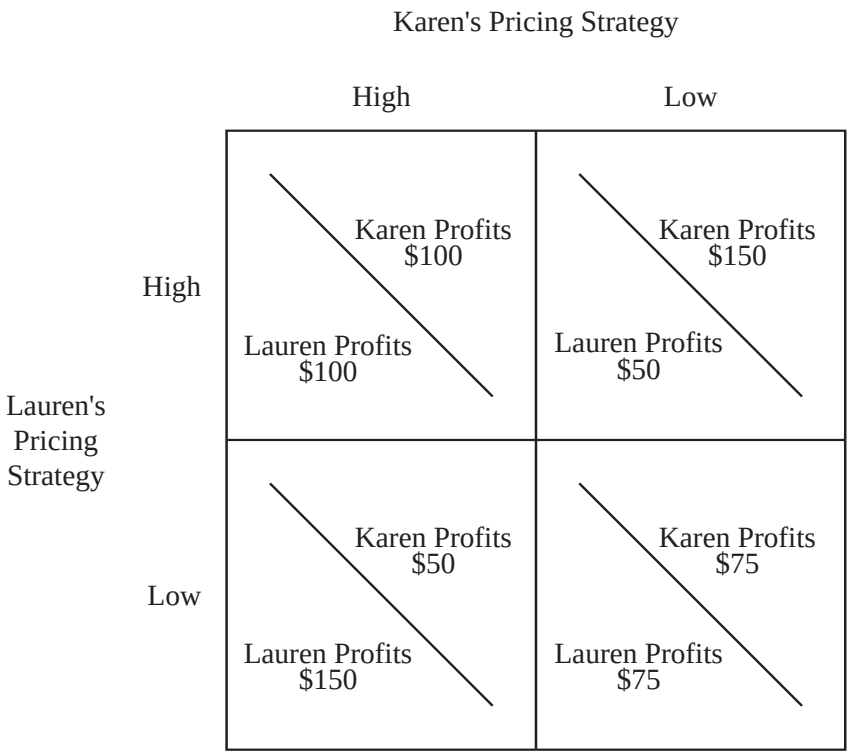


   (a) On the graph above correctly identify curves 1, 2, 3, and 4.

   (b) Identify the market structure in which this firm is operating.

   (c) If this firm is operating in a perfectly competitive market, identify a price that could exist only in short-run equilibrium.

   (d) If this firm is operating in a perfectly competitive market, identify a price that could exist only in long-run equilibrium.



3. Karen and Lauren are two competing firms in a market where there are few competitors, selling a slightly differentiated product, with significant barriers to entry. Based on this and the information in the payoff matrix above answer each of the following:

   (a) In what market structure do Karen and Lauren operate?
   (b) What pricing strategy will prevail in this market? Explain how you arrived at that outcome.
   (c) Does Karen have a dominant strategy? Explain.
   (d) Does Lauren have a dominant strategy? Explain.
   (e) If Karen and Lauren could agree to a binding, collusive agreement, what pricing strategy would prevail in this market?