

Name \_\_\_\_\_

Student Number \_\_\_\_\_

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Scenario 12.3:

Suppose a stream is discovered whose water has remarkable healing powers. You decide to bottle the liquid and sell it. The market demand curve is linear and is given as follows:

$$P = 30 - Q$$

The marginal cost to produce this new drink is \$3.

- 1) Refer to Scenario 12.3. What will be the price of this new drink in the long run if the industry is a Cournot duopoly? 1) \_\_\_\_\_  
A) \$9  
B) \$13.50  
C) \$12  
D) \$3  
E) none of the above
- 2) The relationship between a pure-strategy Nash equilibrium and a dominant-strategy equilibrium is that 2) \_\_\_\_\_  
A) they are the same.  
B) they are mutually exclusive and exhaustive, in that a dominant-strategy equilibrium is the same thing as a mixed-strategy Nash equilibrium.  
C) a pure-strategy Nash equilibrium is a special case of a dominant-strategy equilibrium.  
D) there may not be a dominant-strategy equilibrium, but there always is a pure-strategy Nash equilibrium.  
E) a dominant-strategy equilibrium is a special case of a pure-strategy Nash equilibrium.
- 3) Once the state environmental protection agency devises its new policy to protect the environment, firms decide whether to remain in the state or move their operations to a neighboring state. In the language of game theory, this is an example of: 3) \_\_\_\_\_  
A) a cooperative game. B) a sequential game.  
C) a threat. D) the Prisoner's dilemma.
- 4) Some grocery stores are now offering customers coupons which entitle them to a discount on certain items on their next visit when they go through the check-out line. This practice is an example of: 4) \_\_\_\_\_  
A) intertemporal price discrimination.  
B) third-degree price discrimination.  
C) a two-part tariff.  
D) bundling.  
E) none of the above
- 5) The Lerner index measures 5) \_\_\_\_\_  
A) a firm's potential monopoly power.  
B) a firm's potential profitability.  
C) an industry's potential market power.  
D) the amount of monopoly power a firm chooses to exercise when maximizing profits.

- 6) Repetition of a game 6) \_\_\_\_\_  
 A) is not possible.  
 B) is possible only if the payoffs in the matrix change.  
 C) can result in behavior that is different from what it would be if the game were played only once.  
 D) makes cooperative games into non-cooperative games.  
 E) yields the same outcome, over and over.

Scenario 10.1:

Barbara is a producer in a monopoly industry. Her demand curve, total revenue curve, marginal revenue curve and total cost curve are given as follows:

$$Q = 160 - 4P \quad TC = 4Q$$

- 7) Refer to Scenario 10.1. How much profit will she make? 7) \_\_\_\_\_  
 A) 0  
 B) -996  
 C) 1,568  
 D) 1,296  
 E) none of the above
- 8) Refer to Scenario 10.1. How much output will Barbara produce? 8) \_\_\_\_\_  
 A) 56  
 B) 22  
 C) 72  
 D) 0  
 E) none of the above
- 9) Suppose a firm has market power and faces a downward sloping demand curve for its product, and its marginal cost curve is upward sloping. If the firm reduces its price, then: 9) \_\_\_\_\_  
 A) the change in producer surplus is transferred to consumers.  
 B) producer surplus increases due to new buyers, but the producer surplus from existing customers declines due to the lower price.  
 C) the sum of producer and consumer surplus remains the same, but surplus value is transferred from the producer to consumers.  
 D) the increase in consumer surplus is only due to the increase in quantity demanded.

Scenario 13.14

Consider the game below:

		Player C		
		Q=50	Q=100	Q=150
Player R	Q=50	37, 37	30, 40	20, 37
	Q=100	40, 30	32, 32	15, 25
	Q=150	37, 20	25, 15	0, 0

- 10) If, in the game in Scenario 13.14, R moves first, it will select 10) \_\_\_\_\_  
 A) Q = 150.  
 B) a mixed strategy over the choices Q = 50 and Q = 100.  
 C) Q = 100.  
 D) a mixed strategy over the three choices that includes some positive likelihood for each Q.  
 E) Q = 50.

11) The game in Scenario 13.14

11) \_\_\_\_\_

- A) is Stackelberg if both players move at the same time; Cournot if one player moves first.
- B) Stackelberg no matter what the timing of moves.
- C) Cournot no matter what the timing of moves.
- D) is Cournot if both players move at the same time; Stackelberg if one player moves first.
- E) is neither Stackelberg nor Cournot.

Scenario 13.2:

Consider the following game:

		ABC Inc.	
		Offer Rebate	No Rebate
XYZ Corp	Offer Rebate	20, 10	30, 0
	No Rebate	12, 16	20, 4

12) Which of the following is true about the game in Scenario 13.2?

12) \_\_\_\_\_

- A) ABC's dominant strategy is to offer a rebate.
- B) XYZ's dominant strategy is not offer a rebate.
- C) XYZ's dominant strategy is to offer a rebate.
- D) ABC's dominant strategy is not offer a rebate.
- E) Both ABC and XYZ offer a rebate as a dominant strategy.

13) Suppose that three oligopolistic firms are currently charging \$12 for their product. The three firms are about the same size. Firm A decides to raise its price to \$18, and announces to the press that it is doing so because higher prices are needed to restore economic vitality to the industry. Firms B and C go along with Firm A and raise their prices as well. This is an example of

13) \_\_\_\_\_

- A) price leadership.
- B) the Stackelberg model.
- C) collusion.
- D) the dominant firm model.
- E) none of the above

14) If the fringe supply curve shifts leftward in the dominant firm model, then the resulting market equilibrium price is \_\_\_\_\_ and the dominant firm's quantity \_\_\_\_\_.

14) \_\_\_\_\_

- A) higher, increases
- B) lower, increases
- C) lower, decreases
- D) higher, decreases

15) What does it mean to say that a game is in "extensive form"?

15) \_\_\_\_\_

- A) The game is presented as a matrix.
- B) All payoffs are shown.
- C) The game is written out as often as the situation calls for it to be played.
- D) Strategies are described, rather than just numbered.
- E) The game is presented as a decision tree.

16) Which of the following situations is likely to generate noncooperative behavior in repeated games?

16) \_\_\_\_\_

- A) The game is repeated a finite number of times.
- B) There are many players in the game.
- C) The payoffs can change rapidly from one game period to the next.
- D) All of these situations can generate noncooperative behavior.

17) Use the following statements to answer this question:

17) \_\_\_\_\_

- I. A player must have at least one dominant strategy in a game.
  - II. If neither player in a game has a dominant strategy in a game, then there is no equilibrium outcome for the game.
- A) I and II are false.                      B) II is true and I is false.  
C) I and II are true.                      D) I is true and II is false.

**Scenario 13.10**

Consider the game below:

		<b>Moma's Pop</b>	
		Have a Sweepstakes	Create a Diet Soda
<b>Weasel's Pop</b>	Use More Caffeine	-5, 5	10, -10
	Use Animal-Shaped Bottles	8, -8	0, 0

18) In the game in Scenario 13.10, there is

18) \_\_\_\_\_

- A) a mixed strategy and a pure strategy equilibrium.
- B) a mixed strategy equilibrium, and no other.
- C) a mixed strategy and two pure strategy equilibria.
- D) a mixed strategy and four pure strategy equilibrium.
- E) no equilibrium in either mixed or pure strategies.

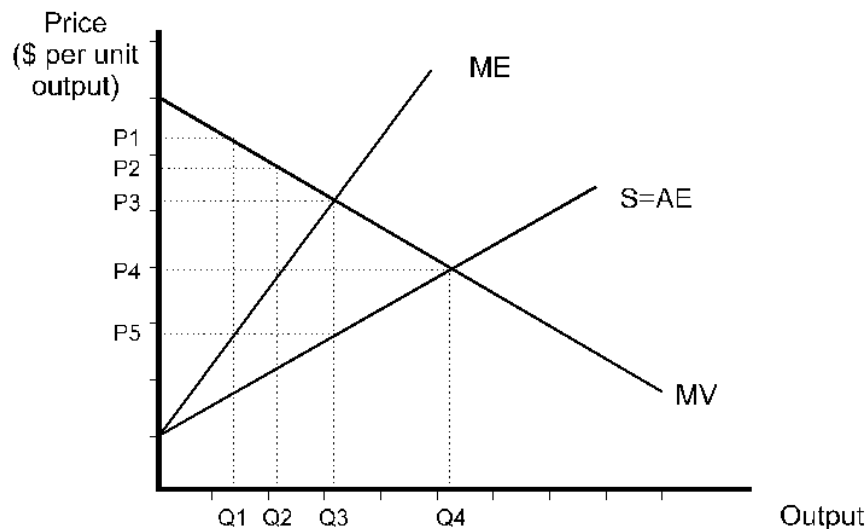


Figure 10.3

The marginal value curve and expenditure curves in the diagram above are those of a monopsony.

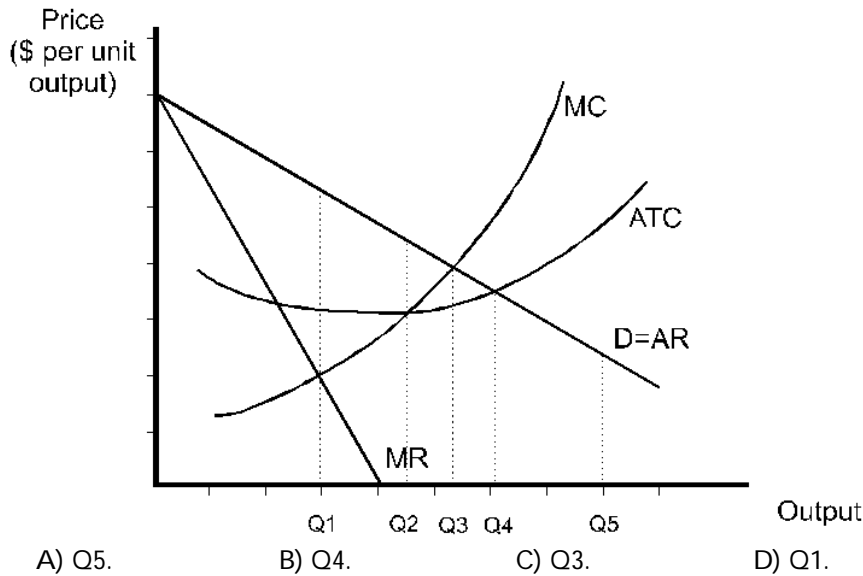
19) Refer to Figure 10.3. What quantity will the monopsonist purchase to maximize profit?

19) \_\_\_\_\_

- A) Q1
- B) Q2
- C) Q3
- D) Q4
- E) none of the above

20) For the monopolist shown below, the profit maximizing level of output is:

20) \_\_\_\_\_



21) Although firms earn zero profits in the long run, why is the outcome from monopolistic competition considered to be inefficient?

21) \_\_\_\_\_

- A) Quantity is lower than the perfectly competitive outcome.
- B) Price exceeds marginal cost.
- C) Goods are not identical.
- D) A and B are correct.
- E) B and C are correct.

22) The degree of monopsony power that a firm enjoys is determined by

22) \_\_\_\_\_

- A) elasticity of market demand, elasticity of market supply, and number of buyers in the market.
- B) how buyers interact, number of sellers of the resource, and elasticity of market demand.
- C) number of buyers in the market, how buyers interact, and number of sellers of the resource.
- D) elasticity of market supply, number of buyers in the market, and how buyers interact.

23) Is there a first-mover advantage in the Bertrand duopoly model with homogenous products?

23) \_\_\_\_\_

- A) No, the second-mover would be able to set a slightly lower price and capture the full market share.
- B) No, first-movers cannot choose a profit maximizing quantity because the second-mover can always produce a bit less and earn higher profits.
- C) Yes, first-movers may have an advantage, but it depends on the model assumptions.
- D) Yes, first-movers always hold the advantage over other firms.

24) Discrimination based upon the quantity consumed is referred to as \_\_\_\_\_ price discrimination.

24) \_\_\_\_\_

- A) second-degree      B) third-degree      C) group      D) first-degree

25) DVDs can be produced at a constant marginal cost, and Roaring Lion Studios is releasing the DVDs for its last two major films. The DVD for *Rambeau 17* is priced at \$20 per disk, and the DVD for *Schreck 10* is priced at \$30 per disk. If the Lerner indices for *Rambeau 17* divided by the Lerner index for *Schreck 10* equals 0.5, what is the constant marginal cost of producing both DVDs?

25) \_\_\_\_\_

- A) MC = \$15      B) MC = \$20      C) MC = \$10      D) MC = \$5

Scenario 10.2:

A monopolist faces the following demand curve, marginal revenue curve, total cost curve and marginal cost curve for its product:

$$\begin{aligned}Q &= 200 - 2P \\MR &= 100 - Q \\TC &= 5Q \\MC &= 5\end{aligned}$$

- 26) Refer to Scenario 10.2. Suppose that a tax of \$5 for each unit produced is imposed by state government. What is the profit maximizing level of output? 26) \_\_\_\_\_  
A) 95  
B) 90  
C) 100  
D) 0  
E) none of the above
- 27) A firm has two customers with non-identical demands and a constant marginal cost of production. At any positive price, the consumer surplus values for the two customers are related as  $CS_2 \geq CS_1$ . What can we say about the optimal two-part tariff for the firm? 27) \_\_\_\_\_  
A) The firm sets the price equal to MC and the optimal tariff is equal to  $CS_2$ .  
B) The firm sets the price equal to MC and the optimal tariff is equal to zero.  
C) The firm sets the price equal to MC and the optimal tariff is equal to  $CS_1$ .  
D) The optimal price is greater than MC and the optimal tariff is equal to  $CS_1$ .
- 28) In the Bertrand model with homogeneous products, 28) \_\_\_\_\_  
A) both firms set price equal to marginal cost.  
B) the Nash equilibrium is the competitive outcome.  
C) the firm that sets the lower price will capture all of the market.  
D) all of the above  
E) the outcome is inconclusive.
- 29) Mixed bundling is more profitable than pure bundling when 29) \_\_\_\_\_  
A) the marginal cost of each good being sold is positive.  
B) the consumers' reservation values of each good being sold are not perfectly negatively correlated with one or another.  
C) Both A and B are correct.  
D) the marginal cost of one good is zero.
- 30) Which of the following is NOT a key component of every game? 30) \_\_\_\_\_  
A) Strategies                      B) Players                      C) Payoffs                      D) Cooperation
- 31) In a Nash equilibrium, 31) \_\_\_\_\_  
A) the player with the dominant strategy will win.  
B) at least one player has a dominant strategy.  
C) players may or may not have dominant strategies.  
D) each player has a dominant strategy.  
E) no players have a dominant strategy.

- 32) What happens to the profit-maximizing cartel price and quantity if the marginal cost of production declines? 32) \_\_\_\_\_
- A) If demand is downward sloping, the optimal cartel price should decline and the market quantity should increase.
  - B) The sellers are no longer price takers, so the change in marginal cost has no impact on the cartel outcome.
  - C) The cartel price increases and market quantity declines.
  - D) The sellers retain the same pricing strategy and capture higher per-unit profits.
- 33) Which of the following statements is NOT compatible with explanations for why peak-load pricing is more profitable than charging a single price? 33) \_\_\_\_\_
- A) Consumer willingness to pay for the product varies a lot across different time periods.
  - B) Marginal revenue must be the same across different time periods.
  - C) Marginal revenue changes a lot across different time periods.
  - D) Marginal cost of production is much higher under peak demand.
- 34) You work as a marketing analyst for a pharmaceutical firm, and you are trying to gather information about the marginal cost of production for a competing firm. You know that they have a patent on a popular medication that sells for \$20 per dose, and you believe the elasticity of demand for this product is roughly -4. Assuming the competing firm acts as a profit-maximizing monopolist, what is the competing firm's approximate marginal cost of production? 34) \_\_\_\_\_
- A) \$10 per dose
  - B) \$20 per dose
  - C) \$12.50 per dose
  - D) \$15 per dose

#### Scenario 13.6

Consider the following game. Payoffs are in millions of dollars.

		Lawrence LLP	
		Put Poison Pill In Turbo Tech	Dump Cash Assets of Zamboni Tech
ERS Corporation	Buy Turbo Tech	-\$100, -\$1	\$2, -\$0.5
	Buy Zamboni Tech	\$1, -\$1	-\$0.5, -\$0.5

- 35) Refer to the game in Scenario 13.6. What will occur if ERS Co. plays a maximin strategy? 35) \_\_\_\_\_
- A) \$1, -\$1
  - B) \$2, -\$0.5
  - C) -\$0.5, -\$0.5
  - D) -\$100, -\$1
  - E) There is a 0.25 chance of each outcome in that case.
- 36) Under which of the following scenarios is it most likely that monopoly power will be exhibited by firms? 36) \_\_\_\_\_
- A) When there are few firms in the market and the demand curve faced by each firm is relatively inelastic.
  - B) When there are many firms in the market and the demand curve faced by each firm is relatively inelastic.
  - C) When there are few firms in the market and the demand curve faced by each firm is relatively elastic.
  - D) When there are many firms in the market and the demand curve faced by each firm is relatively elastic.

Scenario 10.5:

A firm produces garden hoses in California and in Ohio. The marginal cost of producing garden hoses in the two states and the marginal revenue from producing garden hoses are given in the following table:

California		Ohio		Qc + o	MR
Qc	MCC	Qo	MCo		
1	2	1	3	1	24
2	3	2	4	2	20
3	5	3	6	3	16
4	9	4	8	4	12
5	16	5	12	5	8
6	24	6	17	6	4

37) Refer to Scenario 10.5. From the perspective of the firm, what is the marginal cost of the 5th garden hose? 37) \_\_\_\_\_

- A) 12                      B) 4                      C) 8                      D) 16                      E) 5

38) In the dominant firm model, the smaller fringe firms behave like: 38) \_\_\_\_\_

- A) monopolists.  
B) Cournot firms.  
C) Bertrand firms.  
D) competitive firms.  
E) Stackelberg firms.

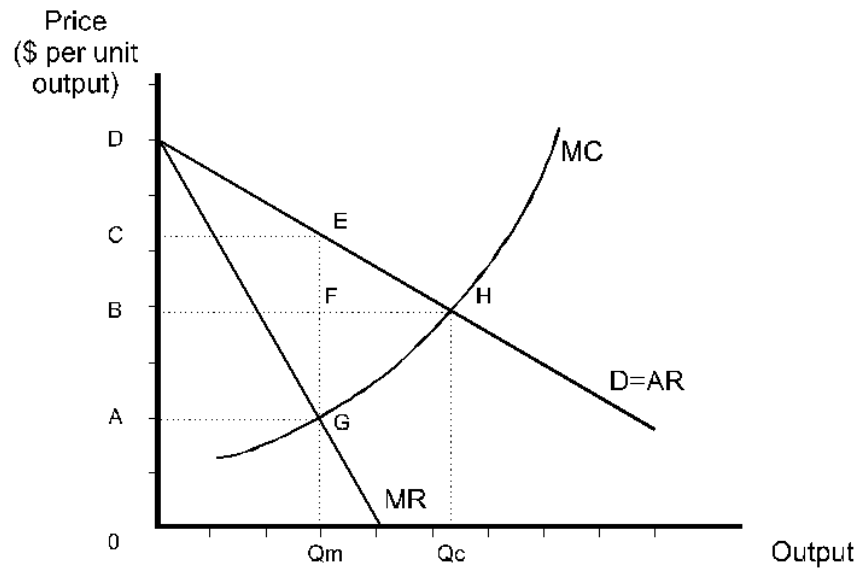


Figure 10.2

39) Refer to Figure 10.2. In moving from the competitive level of output and price to the monopoly level of output and price, the deadweight loss is the area: 39) \_\_\_\_\_

- A) GFH.  
B) FEH.  
C) QmEHQc.  
D) GEH.  
E) none of the above



40) What is the profit maximizing condition for a vertically integrated firm?

40) \_\_\_\_\_

- A) The sum of net marginal revenues equals the marginal cost of the final output.
- B) Net marginal revenue equals the marginal cost of each intermediate good.
- C) Net marginal revenue equals the sum of the marginal costs of the intermediate inputs.
- D) Marginal revenue equals the marginal cost of the final output.

## Answer Key

Testname: 230D2 MID-TERM 1 V1

- 1) A
- 2) E
- 3) B
- 4) B
- 5) D
- 6) C
- 7) D
- 8) C
- 9) B
- 10) A
- 11) D
- 12) E
- 13) A
- 14) A
- 15) E
- 16) D
- 17) A
- 18) B
- 19) C
- 20) D
- 21) D
- 22) D
- 23) A
- 24) A
- 25) A
- 26) B
- 27) D
- 28) D
- 29) C
- 30) D
- 31) C
- 32) A
- 33) B
- 34) D
- 35) C
- 36) A
- 37) E
- 38) D
- 39) D
- 40) B