

**PRINCIPLES OF MICROECONOMICS
ECONOMICS 1021A-003**

Department of Economics
Western University

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MID-TERM TEST #2

November 14, 2015

INSTRUCTIONS

1. The test starts at 4:00 pm and ends at 6:00 pm.
2. The multiple choice questions are to be answered on the Scantron answer form.
3. The test contains 20 pages and 50 questions.
4. There are no washroom breaks allowed during the test.
5. Only non-programmable calculators are allowed.
6. Only the following items are allowed at your desk:
 - a. Pencils
 - b. Erasers
 - c. Rulers
 - d. Calculator (without the case)
 - e. Student card (without the plastic wallet)

Drinks, food, pencil cases, calculator cases, the plastic wallet holding your student card and cell phones are not allowed. The possession of a cell phone at your desk may be considered an attempt to cheat and will be dealt with accordingly.

Further instructions are on the reverse of this page.

7. Use a **BLACK PENCIL** to complete your Scantron answer form.
 - i. Print your **NAME** and complete your signature.
 - ii. Enter your **STUDENT NUMBER**
 - iii. Enter your **SECTION NUMBER** – 003
8. Ensure that the code on your answer sheet matches the test version number in the top right hand corner of this page.
9. Do not ask questions during the test. If you have a concern about a question, note it on a piece of paper along with your name and student number and hand it in at the end of the test.
10. **WHEN YOU ARE FINISHED, HAND IN YOUR SCANTRON ANSWER SHEET – YOU MAY KEEP YOUR QUESTION PAPER.**

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

- 1) A change in the price of the good measured on the horizontal axis changes _____ of the budget line.
- A) the slope and y-intercept
 - B) the slope and x-intercept
 - C) the x- and y-intercepts but not the slope
 - D) only the slope
 - E) only the y-intercept

Use the figure below to answer the following question.

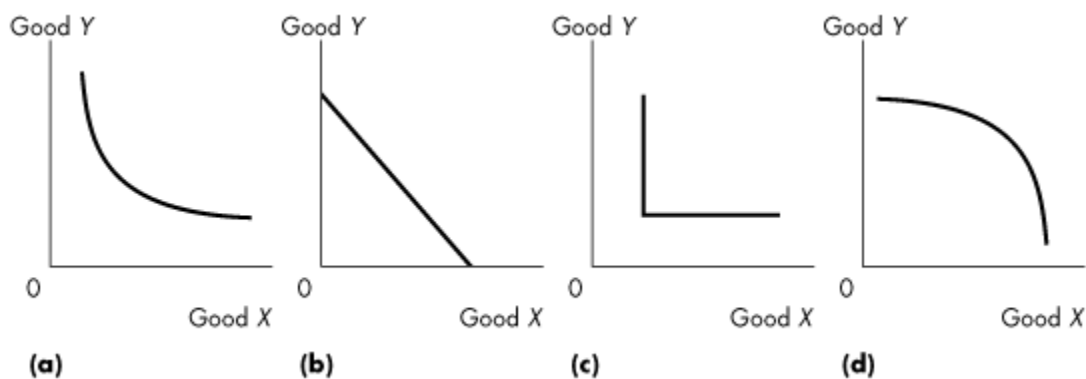


Figure 1

- 2) Which of the graphs in Figure 1 shows perfect substitutes?
- A) (a)
 - B) (b)
 - C) (c)
 - D) (d)
 - E) (c) and (d)
- 3) Which of the following statements is *false*?
- A) The marginal rate of substitution is the rate at which a consumer will give up good y to get an additional unit of good x and remain on the same indifference curve.
 - B) An indifference curve is a line that shows combinations of goods among which a consumer is indifferent.
 - C) If the indifference curve is steep, the marginal rate of substitution is high.
 - D) A consumer possesses a preference map.
 - E) A consumer has only one indifference curve.

Use the figure below to answer the following question.

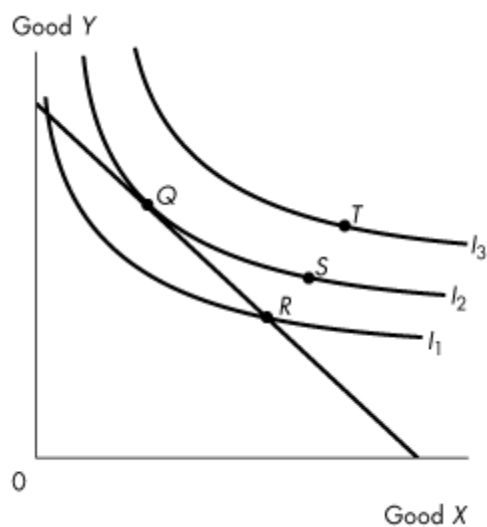


Figure 2

- 4) Which one of the following statements about Figure 2 is true?
- A) Point S is preferred to point Q , but S is not affordable.
 - B) Point R is not affordable.
 - C) Points Q and S cost the same, but Q is preferred to S .
 - D) Point T is preferred to point Q , but T is not affordable.
 - E) Point R is the best affordable point.

Use the figure below to answer the following question.

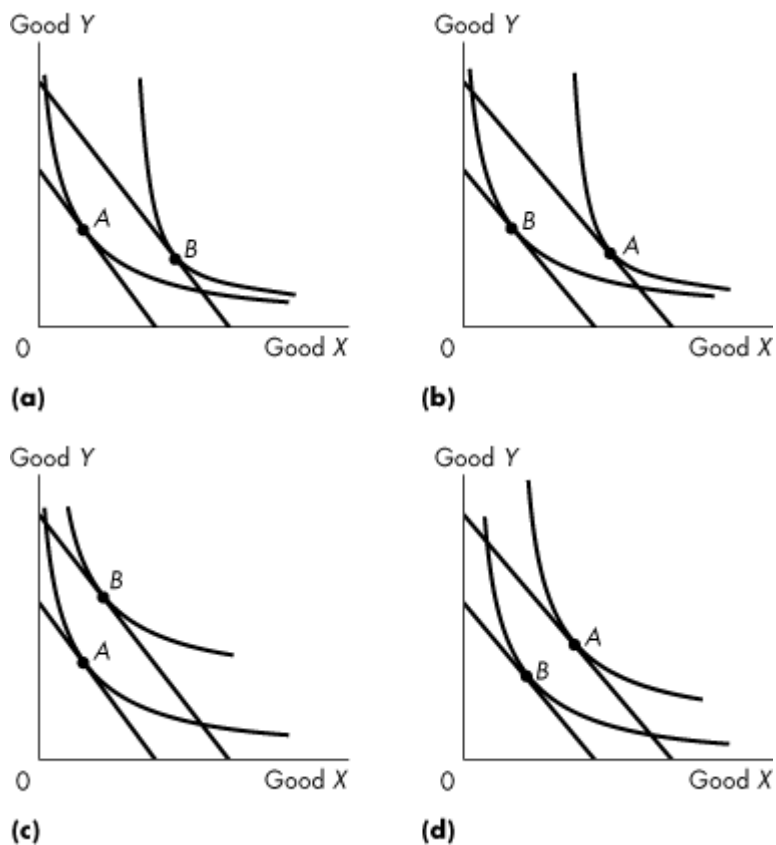


Figure 3

Original equilibrium at *A*, new equilibrium at *B*

- 5) Refer to Figure 3. Which graphs show the case where good *Y* is an inferior good?
- A) (a) and (b)
 - B) (c) and (d)
 - C) (a) and (c)
 - D) (b) and (d)
 - E) none of the graphs
- 6) A firm's total opportunity cost of production is the sum of the cost of using resources
- A) bought in the market.
 - B) supplied by the firm's owner.
 - C) owned by the firm.
 - D) bought in the market and supplied by the firm's owner.
 - E) bought in the market, owned by the firm, and supplied by the firm's owner.

- 7) If economic profit is equal to zero, then the entrepreneur is making
- A) zero taxable income.
 - B) an amount equal to the implicit rental rate.
 - C) a normal profit.
 - D) zero profit as recorded by accountants.
 - E) negative profit as recorded by accountants.
- 8) The long run refers to a time period
- A) of one year or less.
 - B) when there is at least one variable factor of production.
 - C) of at least 5 years.
 - D) in which labour is variable, but plant is fixed.
 - E) in which all factors of production are variable.

Refer to the table below to answer the following question.

Table 1

Labour (workers per day)	Output (teapots per day)
0	0
1	3
2	12
3	19
4	23
5	25

- 9) Refer to Table 1 which gives Tania's total product schedule. Average product of labour reaches its maximum for the _____ worker.
- A) first
 - B) second
 - C) third
 - D) fourth
 - E) fifth
- 10) Which one of the following statements is correct?
- A) When average product is less than zero, marginal product is positive.
 - B) When marginal product is increasing, average product is decreasing.
 - C) When marginal product is zero, total product is at its minimum.
 - D) When average product exceeds marginal product, marginal product is increasing.
 - E) When marginal product is increasing and greater than average product, average product is increasing.

- 11) Which of the following statements by a restaurant owner refers to the law of diminishing marginal returns?
- A) "We can increase the number of meals we serve by just adding more kitchen staff, but each additional worker adds less meals than the previous worker because traffic in the kitchen will get worse."
 - B) "The higher the quality of the ingredients we use, the higher the cost of producing each meal."
 - C) "We can serve the same number of meals with less kitchen equipment, but we would have to hire more kitchen staff."
 - D) "If we double the size of our premises and double everything else — kitchen staff, serving staff, equipment — we can increase the number of meals we serve, but not to double the current levels."
 - E) "We can serve the same number of meals with fewer kitchen staff, but we would have to buy more labour-saving kitchen equipment."

Use the table below to answer the following question.

Table 2

Number of Workers	Total Product (baskets of corn)
1	0
2	3
3	7
4	10
5	12

- 12) Refer to Table 2. The table gives the total product schedule of workers who harvest corn. Diminishing marginal returns begin when the _____ is hired.
- A) 1st labourer
 - B) 2nd labourer
 - C) 3rd labourer
 - D) 4th labourer
 - E) There are no diminishing marginal returns since total product always rises.

Use the table below to answer the following questions.

Table 3

Labour (workers per day)	Output (teapots per day)	TFC (dollars per day)	TVC (dollars per day)	TC (dollars per day)
0	0	20	0	20
1	4	20	--	45
2	9	20	--	70
3	13	20	--	95
4	16	20	100	--
5	18	20	125	145

- 13) Refer to Table 3, which gives Tania's total cost schedule. When output increases from 4 to 9 teapots, the marginal cost of one of the 5 teapots is
 A) \$25. B) \$4.25. C) \$6.25. D) \$5. E) \$4.
- 14) Refer to Table 3, which gives Tania's total cost schedule. The average fixed cost of producing 9 teapots per day is
 A) \$1.25. B) \$1.54. C) \$2.22. D) \$1.11. E) \$10.00.
- 15) Which one of the following is *false*?
 A) When marginal cost is greater than average total cost, average total cost is increasing.
 B) The average total cost curve is U-shaped.
 C) The average fixed cost curve is downward sloping.
 D) The marginal cost curve intersects the average variable cost curve and the average total cost curve at their maximum points.
 E) When marginal cost is greater than average variable cost, average variable cost is increasing.
- 16) If *MC* is rising then *ATC* must be
 A) rising.
 B) falling.
 C) above *MC*.
 D) below *MC*.
 E) none of the above
- 17) A rise in the price of a fixed input shifts a firm's
 A) marginal cost curve downward.
 B) average variable cost curve upward.
 C) marginal cost curve upward.
 D) average total cost curve downward.
 E) average total cost curve upward.

Use the figure below to answer the following question.

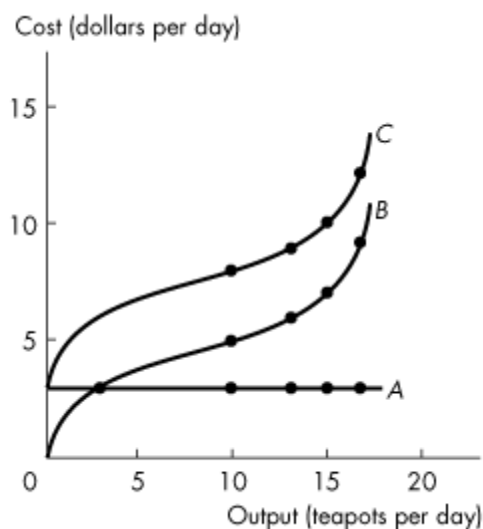


Figure 4

- 18) Refer to Figure 4. Which one of the following statements is *false*?
- Total variable cost and total cost both increase with output.
 - Marginal cost is equal to the slope of curve C.
 - The total fixed cost curve A.
 - The vertical gap between curves B and C is equal to total variable cost.
 - Total fixed cost is constant.
- 19) Which of the following would be classified as a fixed cost for the local supermarket?
- the rent from the six-year lease on the building where the store is located
 - the cost of the boxes of cereal sold in the supermarket
 - the Canada Pension payments that the supermarket makes to the government on the workers' income
 - the overtime paid to the store's manager
 - the salary paid to the store's manager
- 20) A technological advance will shift
- TP, AP, and MP curves up.
 - TP, AP, and MP down.
 - TC, ATC, and MC curves up.
 - TC, ATC, and MC curves down.
- (1) and (3)
 - (1) and (4)
 - (2) and (3)
 - (2) and (4)
 - none of the above

Use the table below to answer the following question.

Table 4
Swanky's output levels

Labour (workers per day)	Plant Size (knitting machines)		
	1	2	3
1	5	11	14
2	11	16	19
3	14	19	23
4	16	21	25
5	17	22	26

- 21) Refer to Table 4, which represents Swanky's production possibilities as the firm varies the quantities of knitting machines and workers per day. If Swanky increases the number of knitting machines from 2 to 3 and increases the number of workers employed from 2 to 3, the factory experiences
- constant marginal product.
 - economies of scale.
 - diseconomies of scale.
 - minimum efficient scale.
 - constant returns to scale.
- 22) Economies of scale refer to the range of output over which
- the marginal product of labour decreases.
 - marginal product equals average product.
 - marginal cost exceeds average cost.
 - long-run average cost rises as output increases.
 - long-run average cost falls as output increases.
- 23) For perfect competition to arise, it is necessary that market demand be
- elastic.
 - inelastic.
 - small relative to the minimum efficient scale of a single firm.
 - large relative to the minimum efficient scale of a single firm.
 - perfectly elastic.
- 24) A firm shuts down if price is
- above minimum average variable cost.
 - below average total cost.
 - less than marginal cost.
 - above minimum average fixed cost.
 - below minimum average variable cost.

- 25) A firm maximizes profit by producing the output at which marginal cost equals
- A) minimum average total cost.
 - B) marginal revenue.
 - C) average fixed cost.
 - D) total revenue.
 - E) minimum average variable cost.
- 26) A perfectly competitive firm's supply curve includes its marginal cost curve at all prices above minimum
- A) total variable cost.
 - B) average total cost.
 - C) average variable cost.
 - D) total cost.
 - E) average fixed cost.
- 27) A firm that temporarily shuts down and produces no output incurs a loss equal to its
- A) total fixed cost.
 - B) total variable cost.
 - C) average total cost.
 - D) marginal cost.
 - E) average fixed cost.
- 28) In which one of the following situations will a perfectly competitive firm make an economic profit?
- A) $MR > ATC$
 - B) $ATC > MR$
 - C) $MR > AVC$
 - D) $ATC > MC$
 - E) $MC > AVC$

Use the figure below to answer the following question.

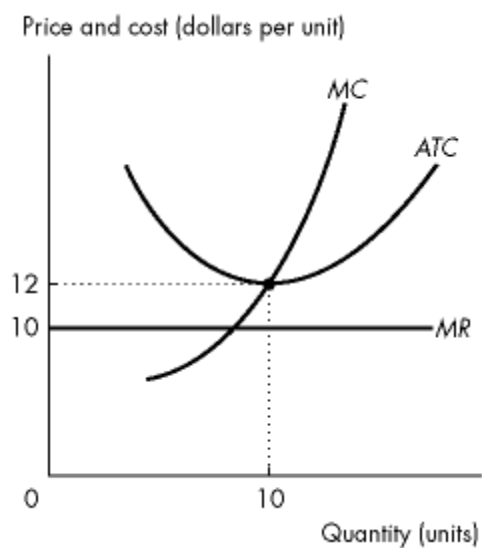


Figure 5

- 29) Refer to Figure 5, which shows the cost curves and marginal revenue curve of a firm in a perfectly competitive industry. In the short run, the firm will
- A) incur an economic loss.
 - B) make an economic profit.
 - C) close down.
 - D) exit from the industry.
 - E) break even.

Use the figure below to answer the following question.

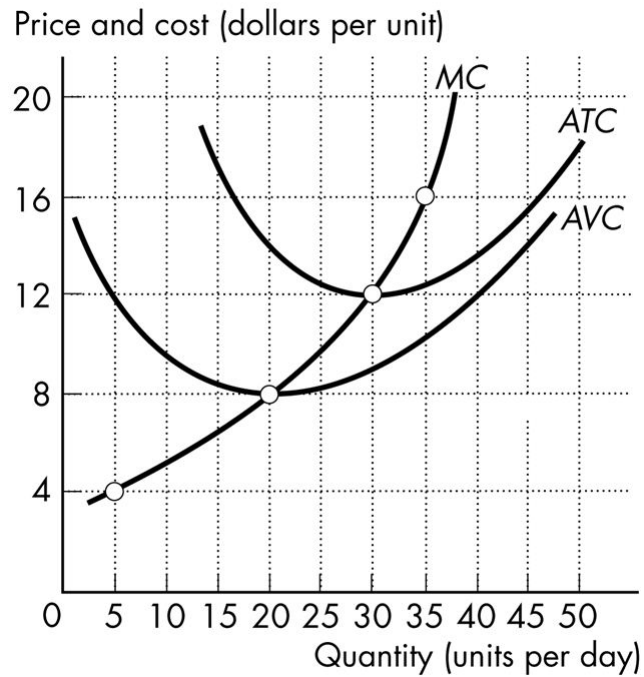


Figure 6

- 30) Refer to Figure 6, which shows cost curves of Paul's Picture Frames Inc. The picture frame market is perfectly competitive and the market price is \$12 a frame. Paul produces _____ frames each week and makes _____ total revenue.
- A) zero; zero B) 20; \$96 C) 30; zero D) 20; \$240 E) 30; \$360

Use the figure below to answer the following question.

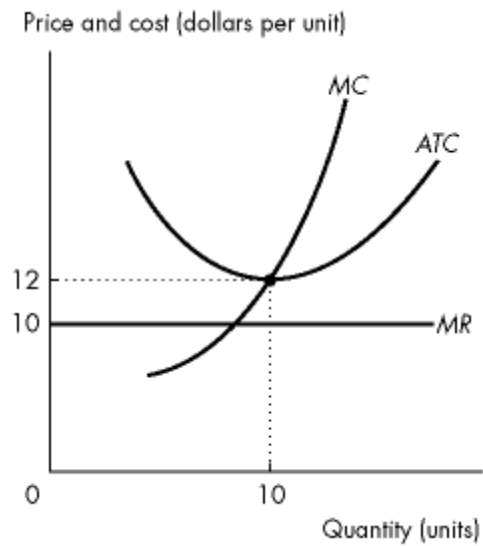


Figure 7

- 31) Refer to Figure 7, which shows the cost curves and marginal revenue curve of a firm in a perfectly competitive market. In the long run, market
- A) supply will increase.
 - B) supply and market demand will decrease.
 - C) demand will decrease.
 - D) demand will increase.
 - E) supply will decrease.

Use the figure below to answer the following question.

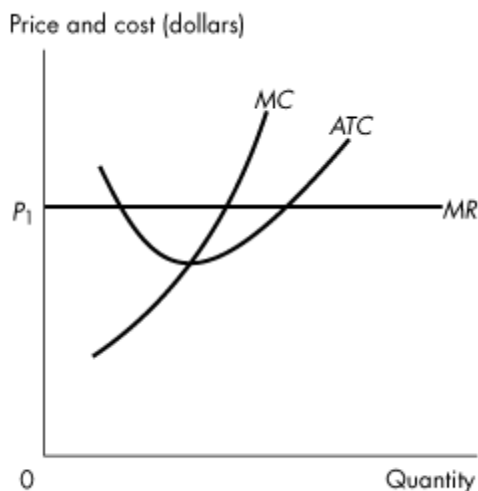


Figure 8

- 32) Refer to Figure 8, which shows the cost curves and marginal revenue curve of a firm in a perfectly competitive market. In the long run, market
- supply and market demand will decrease.
 - demand will increase.
 - demand will decrease.
 - supply will increase.
 - supply will decrease.
- 33) If firms in a perfectly competitive market are making an economic profit, new firms will enter. This entry shifts the market
- supply curve rightward, and the market price falls.
 - supply curve rightward and the market demand curve leftward.
 - demand curve leftward, and the market price falls.
 - supply curve leftward, and the market price rises.
 - demand curve rightward, and the market price rises.
- 34) When a perfectly competitive market is in long-run equilibrium,
- firms exit the market if other firms are incurring an economic loss.
 - all firms make zero economic profit.
 - firms enter the market if other firms are making an economic profit.
 - at least one firm makes an economic profit.
 - marginal revenue equals minimum average variable cost.

Use the information below to answer the following question.

Fact 1 Exxon Mobil Selling All Its Retail Gas Stations

Exxon Mobil is not alone among Big Oil exiting the retail gas business, a market where profits have gotten tougher as crude oil prices have risen. Gas station owners say they're struggling to turn a profit because while wholesale gasoline prices have risen sharply, they've been unable to raise pump prices fast enough to keep pace. Source: *Houston Chronicle*, June 12, 2008

- 35) Refer to Fact 1. Exxon Mobil's decision will _____ economic profit of other gasoline retailers, everything else remaining the same.
- A) decrease
 - B) increase
 - C) not change
 - D) increase or not change
 - E) decrease or not change
- 36) Initially, a perfectly competitive market that has 1,000 firms is in long-run equilibrium. Then 100 firms in the industry adopt a new technology that reduces the average cost of producing the good. In the short run, the price _____, firms with the new technology make _____ economic profit, and firms with the old technology _____.
- A) remains the same; positive; incur an economic loss
 - B) falls; break even; incur an economic loss
 - C) remains the same; zero; incur an economic loss
 - D) remains the same; positive; break even
 - E) falls; positive; incur an economic loss
- 37) A natural monopoly exists when
- A) the government protects the firm by granting an exclusive franchise.
 - B) production can take place with constant returns to scale.
 - C) one firm can supply the entire market at a lower cost than two or more firms.
 - D) the average total cost curve is upward sloping.
 - E) there are no rivals in the market.
- 38) To prevent monopoly from arising, there must be
- A) barriers preventing entry of other firms.
 - B) economies of scale.
 - C) no close substitutes for the good.
 - D) freedom of entry into the market.
 - E) a single supplier of a good in the market.

Use the information below to answer the following question.

Fact 2

The following statements give some information about seven markets.

1. Coca-Cola cuts its price below that of Pepsi-Cola in an attempt to increase its market share.
2. A single firm, protected by a barrier to entry, produces a personal service that has no close substitutes.
3. A barrier to entry exists, but the good has some close substitutes.
4. A firm offers discounts to students and seniors.
5. A firm can sell any quantity it chooses at the going price.
6. The government issues Nike an exclusive licence to produce golf balls.
7. A firm experiences economies of scale even when it produces the quantity that meets the entire market demand.

39) Refer to Fact 2. A monopoly might arise in the market described in

- A) statement 3.
- B) statement 4.
- C) statement 1.
- D) statements 2, 6, and 7.
- E) statement 5.

40) A single-price monopolist's demand curve

- A) is horizontal.
- B) is the same as the market demand curve.
- C) is its marginal revenue curve.
- D) shows that demand for the good is perfectly inelastic.
- E) shows that demand for the good is perfectly elastic.

Use the figure below to answer the following question.

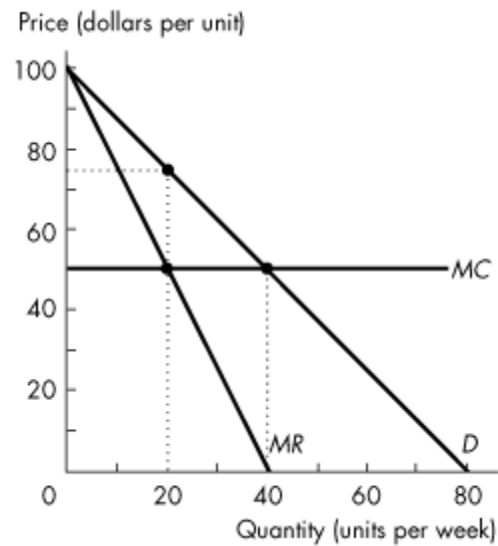


Figure 9

- 41) Refer to Figure 9. This single-price monopoly produces _____ units per day and charges a price of \$_____ per unit.
- A) 20; 20 B) 40; 50 C) 20; 50 D) zero; 0 E) 20; 75
- 42) A single-price monopolist
- A) maximizes economic profit by producing the quantity at which marginal revenue equals average total cost.
- B) maximizes economic profit by producing the quantity at which marginal revenue equals marginal cost.
- C) can sell as much as it wants at a given price because it is the only seller.
- D) can increase the price and the quantity sold simultaneously.
- E) is not restricted by the law of demand.

Use the figure below to answer the following question.

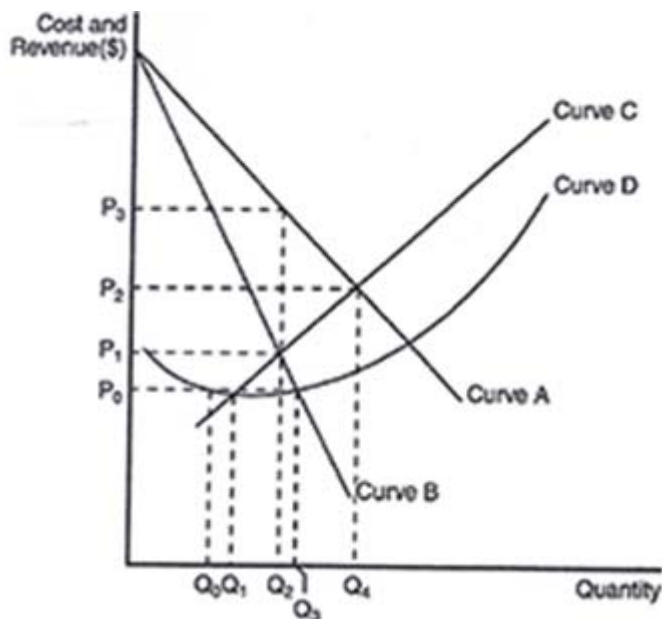


Figure 10

- 43) Refer to Figure 10. Profit will be maximized by charging a price equal to
- A) P_0 B) P_1 C) P_2 D) P_3
- 44) A monopolist will choose to increase output when
- A) market price increases.
 B) at all levels of output, marginal costs increases.
 C) at the present level of output, marginal revenue exceeds marginal cost.
 D) at the present level of output, marginal revenue is less than marginal cost.
 E) None of the above are correct.
- 45) For a single-price monopoly, marginal revenue is less than price because
- A) the price does not need to be lowered on all previous units sold.
 B) total revenue always decreases as output increases.
 C) the revenue gained from the last unit sold is offset by a revenue loss on the units that previously had been sold at a higher price.
 D) the revenue gained from the last unit sold is offset by further gains in price on units not sold at all.
 E) demand is perfectly elastic.

Use the figure below to answer the following questions.

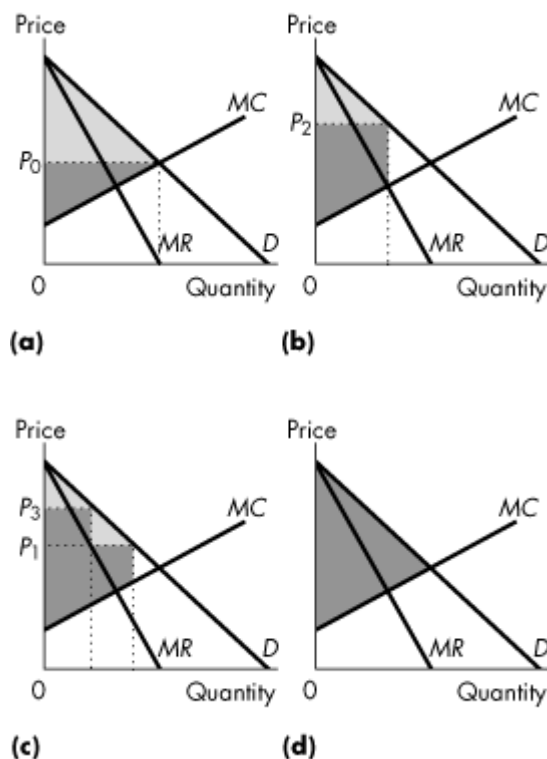


Figure 11

- 46) Consider Figure 11. Consider a perfectly competitive market. If the light grey area shows the consumer surplus, and the dark grey area shows the producer surplus, which graph correctly represents this market?
- A) (a) B) (b) C) (c) D) (d) E) (b) and (d)
- 47) Consider Figure 11. Consider a single-price monopoly. If the light grey area shows the consumer surplus, and the dark grey area shows the producer surplus, which graph correctly represents this firm?
- A) (a) B) (b) C) (c) D) (d) E) (b) and (c)
- 48) A perfect price-discriminating monopoly produces
- A) less than a single-price monopoly.
 B) more than a single-price monopoly but less than a perfectly competitive industry.
 C) more than a perfectly competitive industry.
 D) less than a monopoly that practices price discrimination but not perfect price discrimination.
 E) the same amount as a perfectly competitive industry.

Use the figure below to answer the following question.

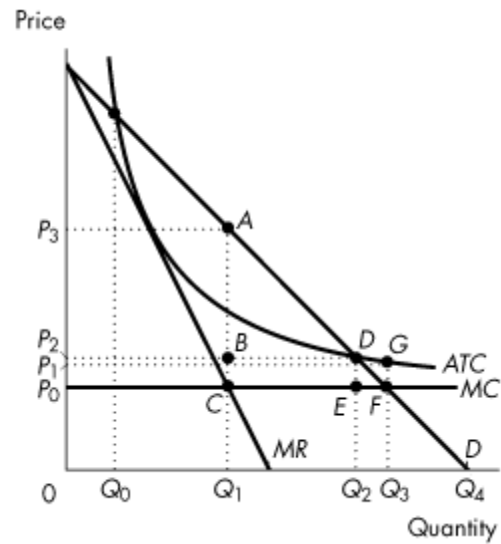


Figure 12

49) Consider the natural monopoly depicted in Figure 12. If a regulatory agency sets a price just sufficient for the firm to make zero economic profit, what output will it produce?

- A) Q_0 B) Q_3 C) Q_4 D) Q_1 E) Q_2

Use the information below to answer the following question.

Fact 3

Cascade Springs Inc. is a natural monopoly that bottles water from a spring high in the Rocky Mountains. The total fixed cost it incurs is \$80,000, and its marginal cost is 10 cents a bottle. The demand curve for Cascade Springs bottled water is shown in the following figure:

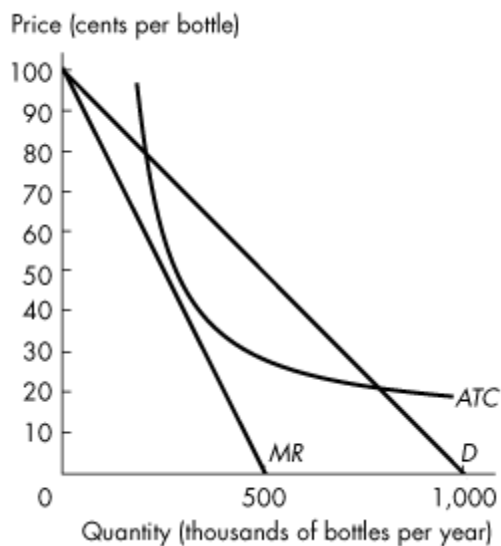


Figure 13

- 50) Refer to Figure 13. Suppose the firm is regulated by the government that imposes marginal cost pricing. The price of a bottle of water is
- A) \$0.30. B) \$0.20. C) \$0. D) \$0.50. E) \$0.10.

Answer Key

Testname: 1021A003MTNOV15

- | | |
|-------|-------|
| 1) B | 43) D |
| 2) B | 44) C |
| 3) E | 45) C |
| 4) D | 46) A |
| 5) A | 47) B |
| 6) E | 48) E |
| 7) C | 49) E |
| 8) E | 50) E |
| 9) C | |
| 10) E | |
| 11) A | |
| 12) D | |
| 13) D | |
| 14) C | |
| 15) D | |
| 16) E | |
| 17) E | |
| 18) D | |
| 19) A | |
| 20) B | |
| 21) C | |
| 22) E | |
| 23) D | |
| 24) E | |
| 25) B | |
| 26) C | |
| 27) A | |
| 28) A | |
| 29) A | |
| 30) E | |
| 31) E | |
| 32) D | |
| 33) A | |
| 34) B | |
| 35) B | |
| 36) E | |
| 37) C | |
| 38) D | |
| 39) D | |
| 40) B | |
| 41) E | |
| 42) B | |