Version 111

THE UNIVERSITY OF WESTERN ONTARIO
LONDON CANADA

Ron Wintrobe **ECONOMICS 1021A-001** **November 12, 2011**

MIDTERM 2

INSTRUCTIONS:

1. The examination begins at **1:00 p.m.** and ends at **3:00 p.m.**

2. Check that your examination paper contains 19 pages.

3. Use a **BLACK PENCIL** to complete your Scantron Form.

   Print your **NAME** and complete your SIGNATURE.

   Enter your **STUDENT NUMBER**.

   Enter your **SECTION NUMBER**, which is 001.

4. **Please hand in Scantron Form only.**

5. You may use a regular calculator but you may not use a programmable or graphing calculator.

6. Your cell phone must be switched off and left in your bag at the front of the exam room.

NOTE: QUESTIONS ARE PRINTED ON BOTH SIDES OF EACH PAGE

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

Use the figure below to answer the following question.

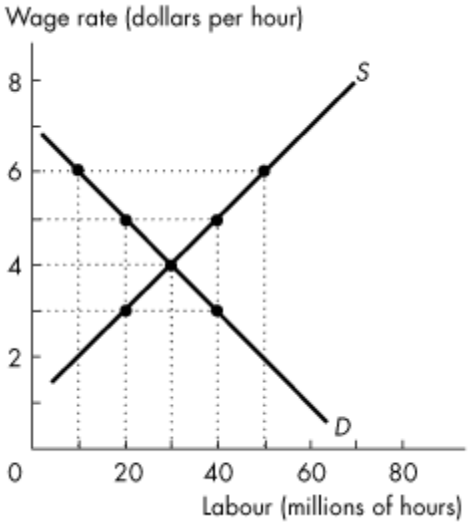

Figure 1

1) Refer to Figure 1. If the minimum wage is set at $6 per hour, what is the level of unemployment in millions of hours?
   A) 50
   B) 10
   C) 0
   D) 40
   E) 20

2) Suppose the minimum wage is $4 per hour, and 1,100 units of labour are hired. Then the government raises the minimum wage to $6 per hour, and 900 units are now hired. Choose the correct statement.
   A) Total wages paid to workers has fallen.
   B) There is unemployment in this labour market.
   C) The quantity of labour supplied is greater at the higher minimum wage.
   D) The price elasticity of demand for labour is 0.5.
   E) all of the above except A.

Use the figure below to answer the following question.

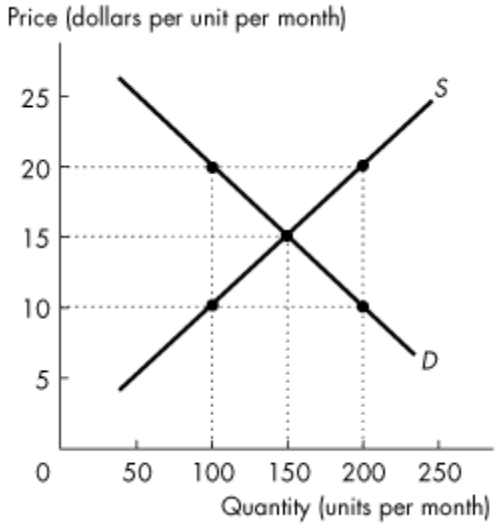

Figure 2

3) Refer to Figure 2. What would be the maximum black market price of the good if a price ceiling is set at $10 a unit?
   A) $10.
   B) 50 goods sold at $10 and 50 goods sold at $15.
   C) $15.
   D) $20.
   E) 50 goods sold at $10 and 50 goods sold at $20.

4) A unit elastic demand
   A) means that the ratio of a percentage change in quantity demanded to a percentage change in price is equal to 1.
   B) means that the ratio of a change in price to a change in quantity demanded is equal to 1.
   C) means that the ratio of a change in quantity demanded to a change in price is equal to 1.
   D) is illustrated by a vertical demand curve.
   E) is illustrated by a horizontal demand curve.

5) Fred's income increases from $840 per week to $1,160 per week. As a result, he decides to purchase 24 percent more bubble gum each week. The income elasticity of Fred's demand for bubble gum is
   A) 1.33.
   B) 0.75.
   C) 24.
   D) 0.32.
   E) 0.24.

6) If *A* and *B* are substitutes in production and the price of *A* falls, the supply of *B*
A) decreases and the price of *B* falls.
B) does not change.
C) decreases and the price of *B* rises.
D) increases and the price of *B* falls.
E) increases and the price of *B* rises.

Use the figure below to answer the following questions.

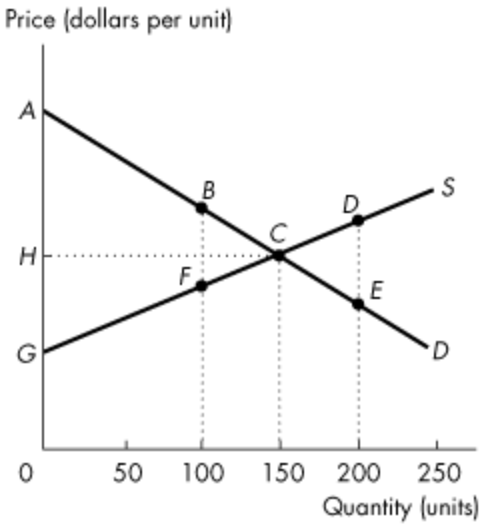

Figure 3

7) Refer to Figure 3. If the level of output is 200 units, the deadweight loss is area
A) *DCE*.
B) *ACH*.
C) *ACG*.
D) *HCG*.
E) *BCF*.

8) Refer to Figure 3. If the level of output is 150 units, the producer surplus is area
A) *ACG*.
B) *BCF*.
C) *HCG*.
D) *ACH*.
E) *DCE*.

9) Which of the following will definitely result in an increase in the equilibrium price?
A) a decrease in demand combined with an increase in supply
B) a decrease in both demand and supply
C) an increase in both demand and supply
D) an increase in supply combined with a decrease in demand
E) an increase in demand combined with a decrease in supply

Use the figure below to answer the following question.

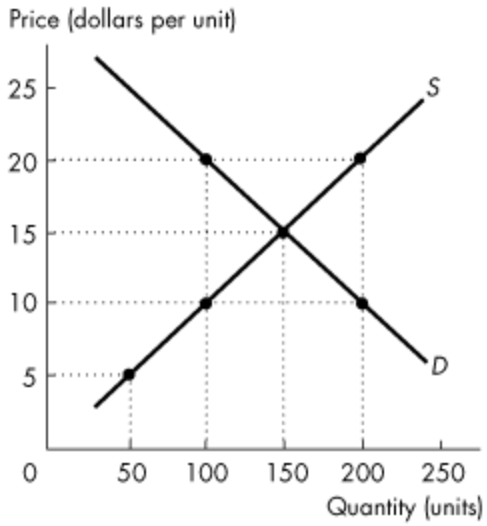

Figure 4

10) Refer to Figure 4. If the quantity produced is 100,
A) marginal social cost exceeds marginal social benefit.
B) marginal social benefit is minimized.
C) production is efficient.
D) marginal social benefit exceeds marginal social cost.
E) deadweight loss is zero.

11) Choose the correct statement.
A) A government subsidy paid to a producer is an external benefit.
B) Consumer surplus is an external cost.
C) Consumer surplus is an external benefit.
D) Producer surplus is an external cost.
E) Subsidies lead to overproduction.

12) If enforcement is aimed at sellers of an illegal good, the
A) price falls and quantity bought increases.
B) price and quantity bought decrease.
C) price rises and quantity bought decreases.
D) price change is uncertain and quantity bought decreases.
E) price and quantity bought increase.

13) If enforcement is aimed at buyers of an illegal good, the
A) price falls and quantity bought increases.
B) price rises and quantity bought decreases.
C) price and quantity bought increase.
D) price and quantity bought decrease.
E) price change is uncertain and quantity bought decreases.

14) Total utility equals
A) the area below the demand curve but above the market price.
B) the marginal utility of the last unit consumed multiplied by the total number of units consumed.
C) the marginal utility of the last unit divided by price.
D) the sum of the marginal utilities of each unit consumed.
E) the slope of the marginal utility curve.

Use the table below to answer the following question.

Table 1

Bags of Popcorn	Marginal Utility	Bottles of Pop	Marginal Utility
1	120	1	120
2	100	2	70
3	80	3	60
4	70	4	40

15) Refer to Table 1. What is the total utility if 3 bags of popcorn and 2 bottles of pop are consumed?
A) 100.
B) 150
C) 310
D) 660
E) 490

16) Let MU_A and MU_B stand for the marginal utility of goods *A* and *B*, respectively. Let P_A and P_B stand for
the price of goods *A* and *B*, respectively. Assume that for a given consumer MU_A and MU_B are equal each other, and P_A is greater than P_B. In this case, the consumer is better off if he consumes
A) good *B* only.
B) less of good *A* and more of good *B.*
C) neither good *A* nor good *B*.
D) more of good *A* and less of good *B.*
E) equal amount of goods *A* and *B.*

17) Advise Sarah how to maximize her utility if MU_A=8, MU_B=20, P_A=4 and P_B=5.
A) Consume more of good *A* and less of good *B*.
B) Raise the price of good *A.*
C) Consume more of good *B* and less of good *A.*
D) Lower the price of good *B.*
E) Consume equal amounts of both goods.

Use the table below to answer the following question.

Table 2

Good *X* ($2 each)		Good *Y* ($1 each)	
Quantity	Utility	Quantity	Utility
1	20	1	14
2	32	2	24
3	42	3	32
4	48	4	37
5	52	5	40
6	54	6	42
7	55	7	43

18) Refer to Table 2. To attain consumer equilibrium, the first $4 of income is used to purchase
A) 3 units of good X.
B) 4 units of good Y.
C) 2 units of good X.
D) 2 units of good Y and 1 unit of X.
E) an amount of X and Y that cannot be determined from the table.

19) Harold can consume apples and oranges. He likes them equally well and currently is in consumer equilibrium. Then the price of oranges rises, while his income remains the same. What will happen to his consumption?
A) consumption of oranges increases; consumption of apples increases
B) consumption of oranges decreases; consumption of apples could either increase or decrease
C) consumption of oranges decreases; consumption of apples decreases
D) consumption of oranges increases; consumption of apples decreases
E) consumption of oranges decreases; consumption of apples increases

20) Childcare workers often get paid fairly low wages, yet it is said that they have "the most important job in the world." This paradox can be resolved by
A) distinguishing between price and value.
B) distinguishing between marginal utility and total utility.
C) noting that marginal utility does not diminish for childcare.
D) noting that childcare yields no utility since it is a service.
E) none of the above.

21) Gerald is a freelance writer who could work for a newspaper at $25,000 a year but instead runs his own business making a revenue of $40,000 a year. His only business expenses are $1,000 for writing materials and $12,000 for rent. What is Gerald's economic profit from working as a freelance writer?
A) $15,000
B) $25,000
C) $28,000
D) $27,000
E) $2,000

22) Firm *A* can produce a unit of output with 10 hours of labour and 5 units of capital. Firm *B* can produce a unit of output with 5 hours of labour and 10 units of capital. Firm *C* can produce a unit of output with 10 hours of labour and 10 units of capital. If the prices of labour and material are $10 and $5, respectively which firm is *technologically* efficient?
A) *A*
B) *B*
C) *C*
D) *A* and *B*
E) *A* and *C*

Use the information below to answer the following question.

Fact 1

Consider the following three methods of preparing your tax return. Method *A* uses a personal computer (cost equal to $1,000) and 1 hour of your time. Method *B* uses a calculator (cost equal to $30) and 12 hours of your time. Method *C* uses pen and paper (cost equal to $1) and 2 days (16 hours) of your time.

23) Consider Fact 1. Choose the best statement.
A) When your wage rate is $50 per hour, the economically efficient method is method *B*.
B) When your wage rate is $5 per hour, the economically efficient method is method *C*.
C) When your wage rate is $500 per hour, the economically efficient method is method *A*.
D) all of the above
E) B and C only

24) Susan invests $1,000 to buy shares of TooNew stock. The company declares bankruptcy, leaving many debts unpaid, including Susan's $1,000 investment. Susan has a personal net worth of $50,000. What will be Susan's final net worth if TooNew has total unpaid debts of $30,000?
A) $49,000
B) $21,000
C) $19,000
D) $20,000
E) $51,000

25) The steeper the slope of the total product curve,
A) the smaller the marginal product.
B) the smaller the average product.
C) the greater the total cost.
D) the greater the marginal product.
E) the more efficient the technology employed.

Use the figure below to answer the following question.

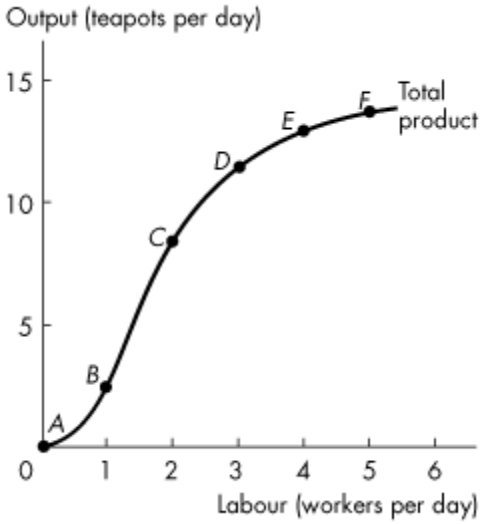

Figure 5

26) Refer to Figure 5 which illustrates Tania's total product curve. Average product of labour reaches its maximum for the _____ worker.
A) first
B) second
C) third
D) fourth
E) fifth

27) Which one of the following statements is *true*?
A) When the average product curve is rising, marginal product is less than average product.
B) The highest value of average product occurs where average product is greater than marginal product.
C) When the average product curve is falling, marginal product is greater than average product.
D) The highest value of average product occurs where average product equals marginal product.
E) The maximum total product occurs at minimum marginal product.

28) 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."

29) Choose the correct statement.
A) When total product is increasing average product of labour and marginal product of labour are both increasing.
B) When marginal product of labour is greater than or equal to average product of labour, average product of labour is increasing.
C) When total product is increasing, average product of labour is decreasing and marginal product of labour is increasing.
D) When marginal product of labour is greater than average product of labour and marginal product is either increasing or decreasing average product of labour is increasing.
E) When marginal product of labour is increasing, average product of labour is greater than marginal product of labour.

Use the figure below to answer the following question.

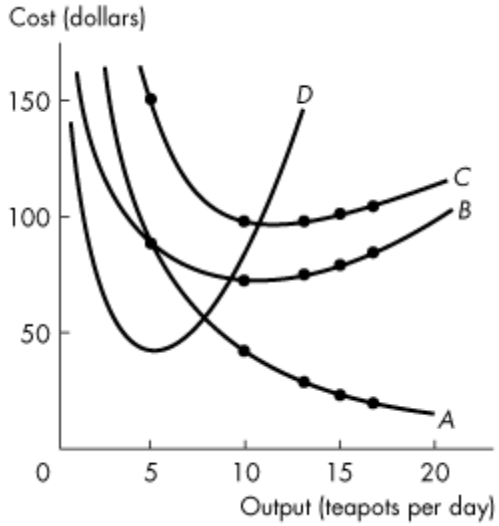

Figure 6

30) Refer to Figure 6, which illustrates short-run average and marginal cost curves. Which one of the following statements is *false*?
A) The vertical gap between curves *B* and *C* is equal to average variable cost.
B) Line *B* comes closer to line *C* as output increases because of a decrease in average fixed cost.
C) Curve *D* is the marginal cost curve.
D) Average fixed cost decreases with output.
E) The vertical gap between curves *B* and *C* is equal to average fixed cost.

31) The vertical distance between the *TC* and *TVC* curves
A) is equal to *AFC*.
B) is equal to *MC*.
C) is equal to *TFC*.
D) increases as output increases.
E) decreases as output increases.

32) Total cost is $20 at 4 units of output and $36 at 6 units of output. Between 4 and 6 units of output, marginal cost
A) is equal to average total cost.
B) is equal to average variable cost.
C) is greater than average total cost.
D) is less than average total cost.
E) equals average fixed cost.

33) If *AFC* is falling then *MC* must be
A) rising.
B) above *AFC*.
C) below *AFC*.
D) falling.
E) none of the above.

Use the table below to answer the following question.

Table 3
Swanky's output levels

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

34) Refer to Table 3, 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 1 to 2 and increases the number of workers employed from 1 to 2, the factory experiences
A) diseconomies of scale.
B) constant returns to scale.
C) constant marginal product.
D) economies of scale.
E) minimum efficient scale.

Use the figure below to answer the following question.

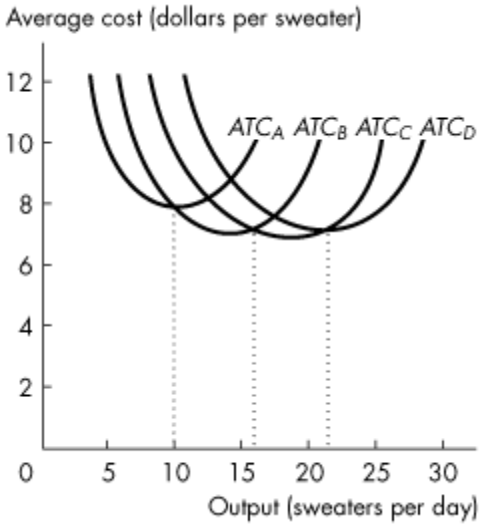

Figure 7

35) Refer to Figure 7, which illustrates the short-run average total cost curves for four different plant sizes. Which plant has the lowest average total cost for an output rate of 5 sweaters a day?
A) Plant *A*
B) Plant *B*
C) Plant *C*
D) Plant *D*
E) none of the above

36) A firm will want to increase its scale of plant if
A) it is persistently producing on the downward-sloping part of its short-run average total cost curve.
B) it is producing below minimum efficient scale.
C) marginal cost is below average total cost.
D) it is persistently producing on the upward-sloping part of its short-run average total cost curve.
E) marginal cost is below average variable cost.

37) For perfect competition to arise, it is necessary that market demand be
A) perfectly elastic.
B) inelastic.
C) small relative to the minimum efficient scale of a single firm.
D) large relative to the minimum efficient scale of a single firm.
E) elastic.

Use the table below to answer the following questions.

Table 4

Output (units)	Total Revenue (dollars)	Total Cost (dollars)
0	0	25
1	30	49
2	60	69
3	90	86
4	120	100
5	150	114
6	180	128
7	210	170

38) Refer to Table 4, which gives the total revenue schedule and total cost schedule of a perfectly competitive firm. The short-run equilibrium price of one unit of the good is
A) $3.
B) $30.
C) $15.
D) $25.
E) $10.

39) Refer to Table 4, which gives the total revenue schedule and total cost schedule of a perfectly competitive firm. If the firm produces 2 units of output, it
A) makes an economic profit of $9.
B) incurs an economic loss of $69.
C) makes an economic profit of $60.
D) incurs an economic loss of $9.
E) incurs an economic loss of $60.

Use the table below to answer the following questions.

Table 5

Output (pizzas per hour)	Total Cost (dollars per hour)
0	10
1	12
2	16
3	22
4	30
5	40
6	55

40) Refer to Table 5, which gives the total cost schedule for Chip's Pizza Palace, a perfectly competitive firm. If the price of a pizza is $7, what is Chip's profit-maximizing output per hour?
A) zero pizzas
B) 1 pizza
C) 2 pizzas
D) 3 pizzas
E) 4 pizzas

41) Refer to Table 5, which gives the total cost schedule for Chip's Pizza Palace, a perfectly competitive firm. If Chip shuts down in the short run, his total cost is
A) $12 an hour.
B) $40 an hour.
C) $22 an hour.
D) $10 an hour.
E) $0.

42) Suppose a firm is trying to decide whether or not to temporarily shut down to minimize total loss. If price equals average variable cost, then
A) total variable cost equals total fixed cost.
B) total revenue equals total variable cost, and the loss equals total fixed cost.
C) total revenue equals total fixed cost, and the loss equals total variable cost.
D) total cost equals total variable cost.
E) total fixed cost is zero.

Use the figure below to answer the following question.

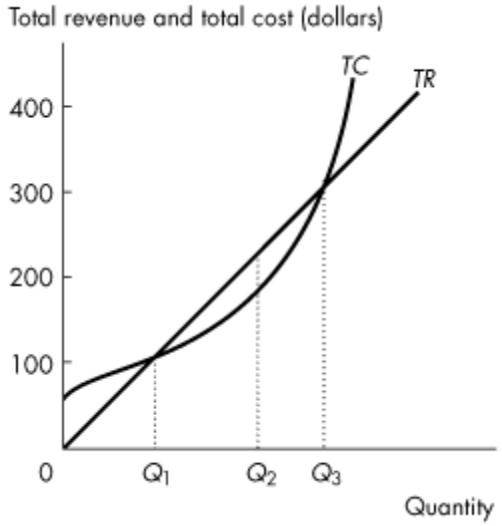

Figure 8

43) Refer to Figure 8, which shows a perfectly competitive firm's total revenue and total cost curves. Which one of the following statements is *false*?
A) At an output of Q_1 units a day, the firm makes zero economic profit.
B) At an output of Q_2 units a day, the firm incurs an economic loss.
C) At an output greater than Q_3 units a day, the firm incurs an economic loss.
D) Economic profit is the vertical distance between the total revenue curve and the total cost curve.
E) At an output less than Q_1 units a day, the firm incurs an economic loss.

44) If a perfectly competitive firm's marginal revenue is less than its marginal cost, the firm
A) should decrease its output to increase economic profit.
B) should increase its output to increase economic profit.
C) must be making an economic profit.
D) must raise the price.
E) cannot increase its economic profit.

45) A firm in a perfectly competitive industry is maximizing its economic profit by producing 500 units of output. At 500 units of output, which one of the following must be *false*?
A) *MR* < *ATC*
B) *MC* < *AVC*
C) *MC* > *ATC*
D) *MR* > *AVC*
E) *MC* < *ATC*

46) If a profit-maximizing firm in a perfectly competitive market is making an economic profit, then it must be producing a level of output where
A) marginal cost is greater than average total cost.
B) marginal cost is greater than marginal revenue.
C) price is greater than marginal revenue.
D) price is greater than marginal cost.
E) average total cost is greater than marginal cost.

Use the figure below to answer the following question.

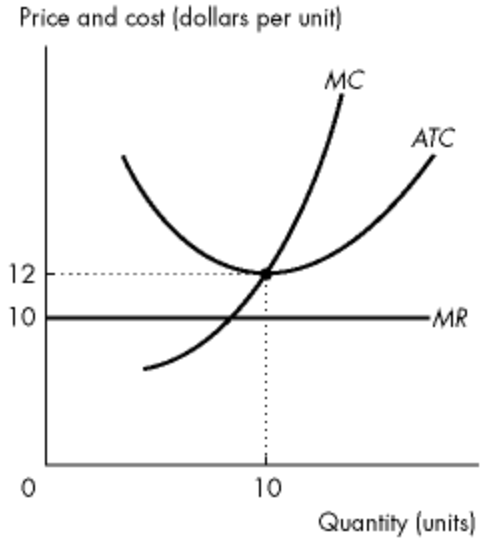

Figure 9

47) Refer to Figure 9, which shows the cost curves and marginal revenue curve of a firm in a perfectly competitive industry. In the short run, if the market price of the good is $10, the firm produces _____ units of output and _____.
A) 10; incurs an economic loss of $40
B) less than 10; incurs an economic loss of less than $20
C) 10; makes an economic profit of $20
D) 10; incurs an economic loss of $20
E) less than 10; incurs an economic loss of $20

Use the information below to answer the following question.

Fact 2

Franklin is a fiddlehead farmer. He sold 10 bags of fiddleheads last month, with total fixed cost of $100 and total variable cost of $50.

48) Refer to Fact 2. Suppose the price of fiddleheads is expected to stay at $10 per bag for the foreseeable future, and Franklin's production and cost figures are expected to stay the same. His total fixed cost consists entirely of rent on land, and his five-year lease on the land runs out at the end of the month. Should Franklin renew the lease?
A) Yes, because total revenue will still cover total fixed cost.
B) Yes, because total revenue will still cover total variable cost and a portion of total fixed cost.
C) No, because in the long run, zero economic profit is a signal to move factors of production out of fiddlehead farming.
D) No, because total revenue must cover all costs for factors of production to remain in fiddlehead farming in the long run.
E) insufficient information to answer

Use the figure below to answer the following question.

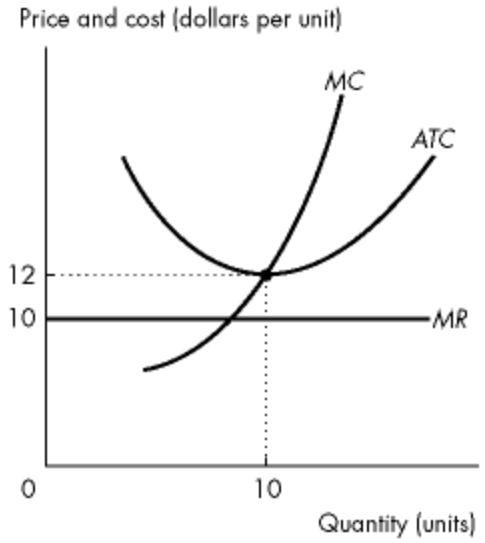

Figure 10

49) Refer to Figure 10 which shows the cost curves and marginal revenue curve of a firm in a perfectly competitive industry. In the long run,
A) firms will enter the market.
B) market demand will increase.
C) firms that remain in the market will reduce production.
D) firms that remain in the market will expand production.
E) market supply will increase.

50) Firms will stop exiting an industry only when
A) marginal revenue equals marginal cost.
B) marginal revenue equals average fixed cost.
C) all remaining firms are making an economic profit.
D) all remaining firms are making zero economic profit.
E) marginal revenue equals price.

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

43) B
44) A
45) B
46) A
47) B
48) D
49) D
50) D