

LEBANESE AMERICAN UNIVERSITY
Business School
Beirut



Microeconomics
(ECO 201)

Exam II
Spring 2007

Name:

ID:

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Section: 14 - MWF @ 13:00

Date: April 27, 2007

PROBLEM #1: 14 pts.

The following table reflects Michael's total utility derived from the consumption of cola and pretzels.

Cola			Quantity	Pretzels		
TU	MU	P = \$4 MU/P		TU	MU	P = \$2 MU/P
40			1	30		
72			2	50		
96			3	66		
112			4	78		
124			5	84		
132			6	86		

1. Assume the price of cola is \$4 per unit and the price of pretzels is \$2 per unit; calculate the marginal utilities (MU) and the marginal utilities per dollar (MU/P) for cola and pretzels. (4pts).

2. List all the different possible combinations that Michael could purchase.(4pts)

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3. Assume Michael has \$14 to spend on these two goods, what combination could he purchase in order to maximize his total utility? (4pts).

Quantity of cola: _____

Quantity of pretzels: _____

4. What is the total utility of the above optimal combination? (2pts).

PROBLEM #2: 18pts (6 @ 3 pts).

The following data describes a short run production function of a farmer who hires labor input to produce strawberries.

Number of workers L	Total product TP	Marginal physical product MPP	Marginal revenue product MRP
0	0	--	--
1	4		
2	10		
3	15		
4	19		
5	22		
6	24		
7	25		
8	25		

1. Calculate the marginal physical product (MPP) of each worker, and the marginal revenue product (MRP), assuming that a **box of strawberry sells for \$4**.

2. With which worker **diminishing returns first occur**? Explain.

3. With which worker is **total product maximized**? Explain.

4. With which worker is **marginal cost minimized**? Explain.

5. If **strawberry boxes are sold in the market at \$4 per box**, and the **wage rate per worker is \$8 an hour**, how many workers should the profit-maximizing farmer hire? Explain.

6. If the **wage rate increases to \$14 an hour**, how many workers would be hired? Explain.

PROBLEM 3: 12pts (6 @ 2pts).

Complete Table 6.3. Then use the information in the table to answer the indicated questions.

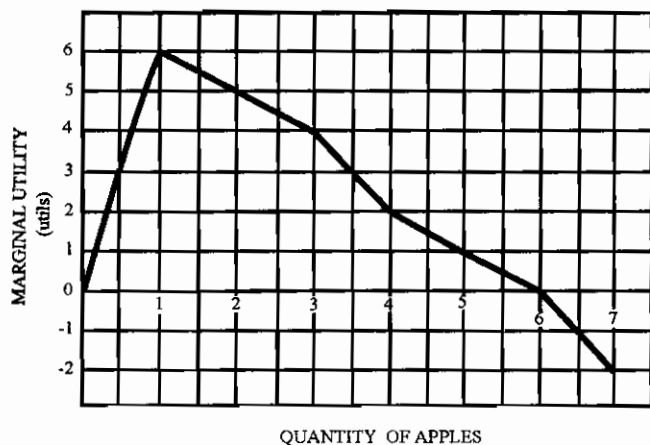
Table 6.3

<u>Q</u>	<u>TFC</u>	<u>TVC</u>	<u>TC</u>	<u>AVC</u>	<u>MC</u>
0	_____	_____	15	_____	_____
1	_____	_____	23	_____	_____
2	_____	_____	_____	_____	4
3	_____	15	_____	_____	_____

- Total fixed costs in Table 6.3 are equal to:
A) \$60.
B) \$0 because the problem involves the long run.
C) \$15.
D) \$30.
- Total variable cost at 1 unit of output is:
A) \$8.
B) \$15.
C) \$12.
D) \$30.
- Total cost at 2 units of output is:
A) \$23.
B) \$65.
C) \$27.
D) \$15.
- Average variable cost at 2 units of output is:
A) \$8.
B) \$6.
C) \$5.
D) \$15.
- The marginal cost of the third unit of output is:
A) \$4.
B) \$8.
C) \$15.
D) \$3.
- Average fixed cost at 3 units of output is:
A) \$5
B) \$10
C) \$15
D) \$3

MULTIPLE CHOICE QUESTIONS: 56 pts (28 @ 2pts)

Figure 5.3



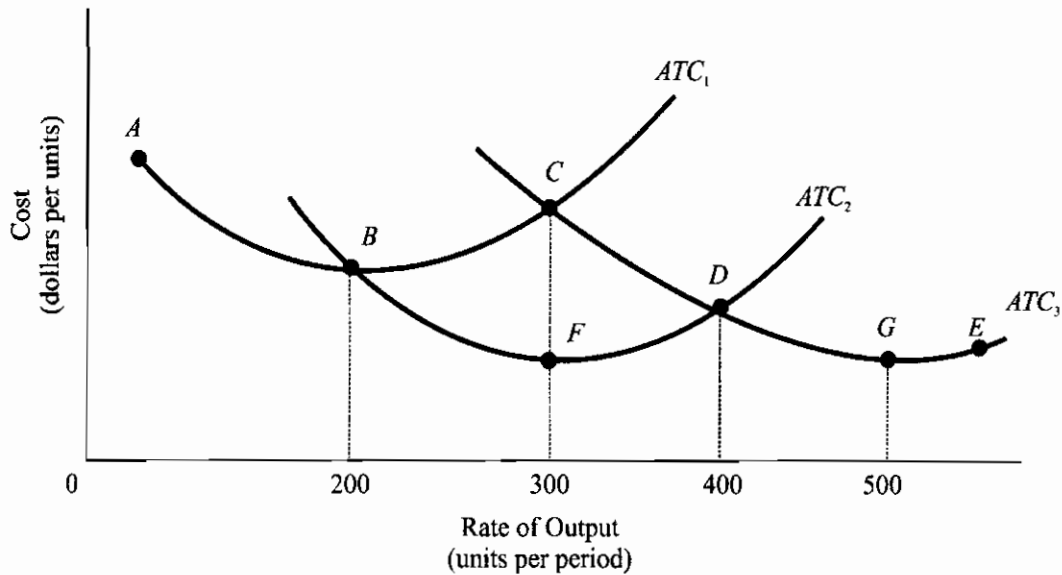
1. Refer to Figure 5.3. The total utility of 4 apples is:
A) 1 utils.
B) 17 utils.
C) 18 utils.
D) 20 utils.
2. Refer to Figure 5.3. Total utility is maximized at:
A) 6 apples.
B) 7 apples.
C) 1 apple.
D) 3 apples.
3. Refer to Figure 5.3. With no income constraint, a rational consumer will consume _____ apples.
A) Zero.
B) One.
C) Six.
D) An infinite amount.
4. Assume that Heather always maximizes her total utility given her budget constraint. If the marginal utility of the last egg is 20 utils and the price of eggs is \$1 each, what can we say about the marginal utility of the last sausage if the price of each sausage is \$2?
A) It must be equal to 40 utils.
B) It must be equal to 20 utils.
C) It must be equal to 10 utils.
D) Indeterminate.

5. Jose goes to an all-you-can-eat buffet at a Chinese restaurant and consumes three plates of food. He does not go back for a fourth plate of food because:
- A) The price of the fourth plate is too high.
 - B) He has reached the point of increasing marginal utility.
 - C) The marginal utility of the fourth plate would be negative.
 - D) His total utility would increase with the fourth plate of food.
6. At some point during a meal each extra bite provides less and less additional satisfaction. This can be explained by:
- A) The law of demand.
 - B) The law of diminishing marginal utility.
 - C) The law of increasing opportunity cost.
 - D) A shift in the demand curve.
7. As consumption increases, total utility must:
- A) Fall.
 - B) Increase as long as marginal utility is positive.
 - C) Increase only if marginal utility increases.
 - D) Increase.
8. A production function shows the:
- A) Minimum amount of output that can be obtained from alternative combinations of inputs.
 - B) Maximum quantities of inputs required to produce a given quantity of output.
 - C) Maximum output we can produce with varying combinations of factor inputs.
 - D) Output capacity of the entire economy.
9. If a firm could hire all the workers it wanted at a zero wage (i.e. the workers are volunteers), the firm should hire:
- A) Enough workers to produce the output where diminishing returns begins.
 - B) Enough workers to produce the output where worker productivity is the highest.
 - C) Enough workers to produce where the MPP = zero.
 - D) All the workers that can fit into the factory.
10. Changes in short-run total costs result from changes in only:
- A) Variable costs.
 - B) Fixed costs.
 - C) Profit.
 - D) The price elasticity of demand.

11. The law of diminishing returns indicates that at some rate of output:
- A) Total output will fall in the long run.
 - B) Marginal physical product will decline in the long run.
 - C) Marginal physical product will decline in the short run.
 - D) All of the above.
12. If the MPP of an additional unit of labor is 3 units per hour, product price is constant at \$6 per unit, and the wage rate is \$15 per hour, then:
- A) The additional unit of labor should be employed.
 - B) The additional unit of labor should not be employed because it costs more than it is worth.
 - C) The employer should lower wages and accept less employment of labor.
 - D) Product price must be reduced if profits are to be made.
13. Suppose that Silvia's Dance Studio uses both labor and capital to teach dance lessons. Given her current mix of labor and capital, the cost efficiency of labor is 5 dance lessons per dollar and the cost efficiency of capital is 1 dance lesson per dollar. Silvia should:
- A) Hire less labor and more capital.
 - B) Hire less capital and more labor.
 - C) Use all capital .
 - D) Use all labor.
14. If an additional unit of labor costs \$15 and has a *MPP* of 50 units of output, the marginal cost is:
- A) \$0.30.
 - B) \$0.50.
 - C) \$7.50.
 - D) \$750.00.
15. Rising marginal costs are the result of:
- A) The law of diminishing returns.
 - B) Decreasing *MPP*.
 - C) Adding more variable factors of production to a fixed quantity of other factors of production.
 - D) All of the above.
16. In the short run, when a firm produces zero output, total cost equals:
- A) ~~Zero~~.
 - B) Variable costs.
 - C) Fixed costs.
 - D) Marginal costs.
17. When the production function shifts upward:
- A) *MC* shifts downward.
 - B) *AVC* shifts downward.
 - C) *ATC* shifts downward.
 - D) All of the above.

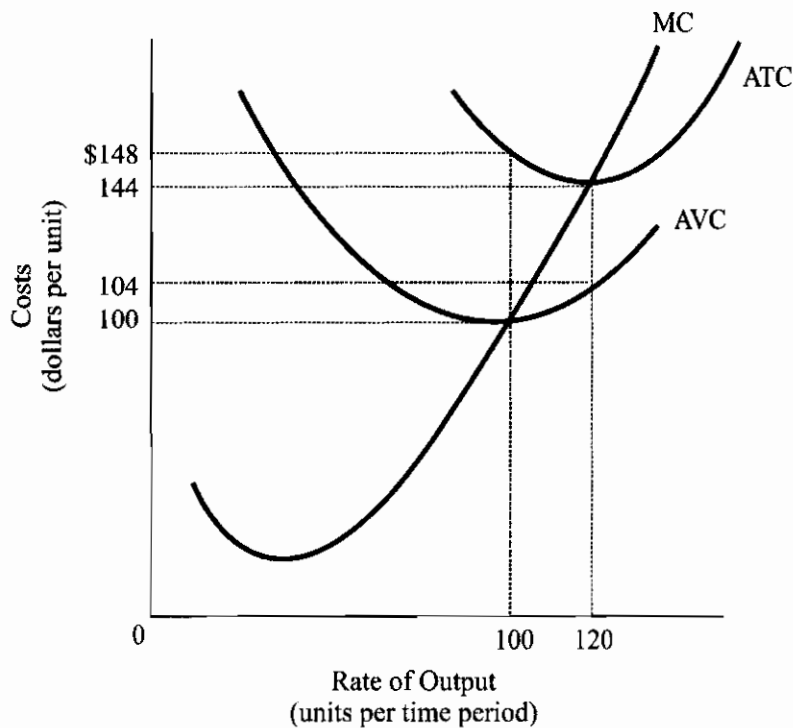
18. In the long run, which of the following is likely to be a variable cost?
- A) Factory rental.
 - B) Wage costs.
 - C) Interest payments on borrowed funds.
 - D) All of the above are variable costs.

Figure 6.7
Long-run average total cost curve



19. In Figure 6.7, a firm that produces over 400 units of output should choose a plant with which short-run average total cost function?
- A) ATC_1 .
 - B) ATC_2 .
 - C) ATC_3 .
 - D) Either ATC_2 or ATC_3 .
20. In Figure 6.7, the long-run average total cost curve is given by the curved line segment:
- A) ACE .
 - B) $ABFDGE$.
 - C) ABF only.
 - D) BFD .
21. Labor productivity will increase in response to:
- A) Lower wages.
 - B) An increase in the amount of capital per worker.
 - C) Lower education levels.
 - D) All of the above.

Figure 6.4



22. What is the total fixed cost in Figure 6.4?
- A) \$48.
 - B) \$10,000.
 - C) \$4,800.
 - D) \$14,800.
23. What is the total variable cost when output is 120 units in Figure 6.4?
- A) \$12,480.
 - B) \$104.
 - C) \$100.
 - D) \$12,000.
24. When the size of a factory (and all its associated inputs) doubles and, as a result, output more than doubles:
- A) The law of diminishing returns must not apply in the smaller factory.
 - B) Economies of scale must exist.
 - C) The short-run *ATC* curve must be declining.
 - D) Marginal costs must be declining.

25. Which of the following would most likely be a fixed cost?
- A) The cost of property insurance.
 - B) The cost of water used in the production process.
 - C) The cost of labor used in the production process.
 - D) The cost of electricity used in the production process.
26. When the average total cost curve is rising, then the marginal cost curve will be:
- A) Below the average fixed cost curve.
 - B) Falling with greater output.
 - C) Above the average total cost curve.
 - D) Below the average total cost curve.
27. Economic and accounting costs will differ whenever:
- A) There is more than one factor of production.
 - B) The firm fails to maximize its profits.
 - C) Any factor of production is not paid an explicit factor payment.
 - D) Firms operate as proprietorships or partnerships instead of as corporations.
28. In the figure below, which area represents consumer surplus at a price of \$5?
- A) CEGF
 - B) FHG
 - C) FGDC
 - D) CHE

