

## EC101 DD/EE. Problem Set 8

*Multiple Choice [MC] questions have only one correct answer. Other kinds of questions may have more than one correct answer. You should understand **why** your answers are correct. If you don't understand the meaning of a question, you may write to your own TF, but do not expect him/her to give you answers. The problem set will not be graded, but the way you discuss the problems in your discussion section will affect your discussion-section score.*

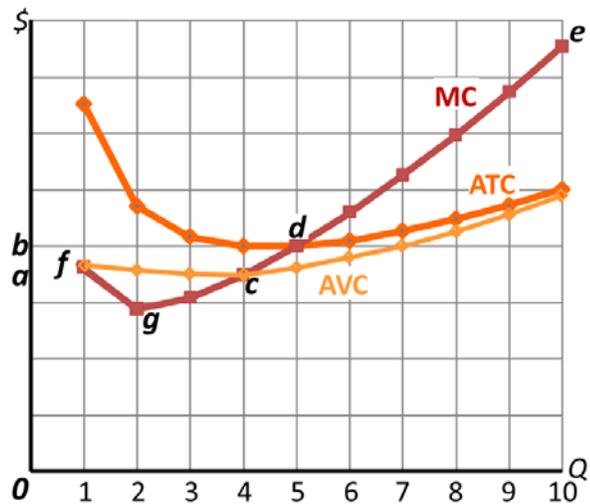
1. [MC] Suppose you are going to your favorite Boston restaurant, and you are planning to eat 25 chicken wings (your favorite food). Usually, the chicken wings sell at \$1 each, but today the price is \$2 each. What will you do?
  - a. The substitution effect will dominate the income effect, and therefore you will eat fewer chicken wings.
  - b. We cannot say because it depends on whether the substitution effect or the income effect dominates.
  - c. Both the income effect and the substitution effect make it very likely that you will eat fewer chicken wings
  - d. It is very likely you will still eat 25 chicken wings because the income effect and the substitution effect will cancel out.
  
2. Do the following scenarios describe rent seeking behavior? Explain.
  - i. Your sister is cleaning her room so she can have her favorite dessert for dinner.
  - ii. Your sister tells your parents you are lazy, so you should wash the dishes instead of her.
  - iii. You are very kind to your friend because you hope she will keep you company.
  - iv. You pretend to listen to your friend's stories because you hope she'll keep you company.
  
3. The perfectly competitive market for fidget spinners has a long-run equilibrium price of \$2 and quantity of 100 million.
  - i. Draw side by side two graphs showing the market equilibrium, and the equilibrium for one typical firm that produces fidget spinners.
  - ii. Now suppose fidget spinners become an internet sensation and everyone wants to buy one. Draw the change in the two part-i graphs in the short run. Is the new price more or less than \$2? Does each firm produce more or less than before? Does the number of firms increase or decrease?
  - iii. Show what happens in the long run. What is the new price? Is the new quantity more or less than in part i.? part ii.? Does the number of firms increase or decrease?
  
4. [MC] Economic rents are
  - a. good for equity because they reward people who are not talented.
  - b. good for efficiency because they reward people for working hard.
  - c. good for efficiency because they attract talent to the firms where talent is more productive.
  - d. bad for efficiency because they are not earned by hard work.

5. Fill in the blanks in the table for a firm that produces wine:

<i>Quantity</i>	<i>VC</i>	<i>TC</i>	<i>AFC</i>	<i>AVC</i>	<i>ATC</i>	<i>MC</i>
0	-----	\$50	-----	-----	-----	-----
1	\$10			\$10	\$60	\$10
2	\$30	\$80				
3			\$16.67	\$20	\$36.67	

6. Are the following statements true or false? Explain.
- Whenever a firm's average variable cost is falling, marginal cost must be falling too.
  - Whenever a firm's average total cost is rising, average variable cost must be rising too.
7. *[MC]* The average variable cost approaches the average total cost as output rises because
- fixed costs are falling.
  - total costs are falling.
  - marginal costs are above average variable costs.
  - average fixed costs are falling.
8. Discuss whether the following statements about rent seeking behavior are true or false. Explain.
- A lord installs a chain across a river that flows through his land and then hires a collector to charge passing boats a fee to lower the chain. This would be considered rent seeking.
  - Rent-seeking could lead to poor allocation of resources and reduce economic efficiency.
9. Are the following statements true or false? Explain.
- Producer surplus equals total profits when there are zero fixed costs.
  - In the short run fixed costs are sunk costs.
  - In the long run competitive firms make zero accounting profit.
10. Anna sells 10 cookies for \$10 each. The cost of inputs for each cookie is constant at \$5. However, instead of spending money on those inputs she could save it in a bank and earn a total interest of \$15. What is her accounting profit? What is her economic profit?
11. In the free city of Karalis, people only eat Almonds (A) and Blueberries (B). Suppose the price of Almonds suddenly doubles. Describe the income and substitution effect on the demand for Blueberries that results from this. *[HINT: you need to consider two cases]*.
12. Suppose Mr. M opened a bakery shop in Commonwealth Avenue, and he paid a \$10 rental for this month in advance. Suppose he can produce at most 6 kilograms (kg) of bread. The following table describes his marginal cost function.
- | Quantity (kg) | MC (\$) |
|---------------|---------|
| 1             | 5       |
| 2             | 4       |
| 3             | 3       |
| 4             | 2.5     |
| 5             | 2       |
| 6             | 1       |
- If the price of bread is \$3/kg, how many kilograms should Mr. M produce?
  - What is Mr. M's economic profit?
  - What should Mr. M do at the end of the month?
13. Is the patent obtained by Apple for the newest iPhone's an example of rent-seeking behavior? Discuss.

14. [MC] The donut market is perfectly competitive. The figure shows the costs of a typical donut producer. In the short run, the donut producer's supply curve is the curve \_\_\_\_\_.



- fgcde*
- 0acde*
- 0bde*
- gcde*

15. Refer to the previous graph. Explain possible reasons why:

- The donut maker's marginal cost curve is decreasing up to point *g*.
- The donut maker's marginal cost curve is increasing from point *g* onwards.