Fall 2017

Principles of Economics (II)
10510ECON100103

Instructor: Eric Chou
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Quiz 3

Name: ________________________ Student ID#:___________________

Instructions: Time: 9:00am~9:50am (50 minutes)

PART I. [60%]

1. Suppose that electricity producers create a negative externality equal to $6 per unit. Further suppose that the government imposes a $8 per-unit tax on the producers. What is the relationship between the after-tax equilibrium quantity and the socially optimal quantity of electricity to be produced?

a. They are equal.

b. The after-tax equilibrium quantity is greater than the socially optimal quantity.

c. The after-tax equilibrium quantity is less than the socially optimal quantity.

d. There is not enough information to answer the question.

Ans: C

2. Under which of the following scenarios would a park be considered a common resource?

a. Visitors to the park must pay an admittance fee, but there are always plenty of empty picnic tables.

b. Vistors to the park must pay an admittance fee and frequently all of the picnic tables are in use.

c. Visitors can enter the park free of charge and there are always plenty of empty picnic tables.

d. Visitors can enter the park free of charge, but frequently all of the picnic tables are in use.

ANS: D

3. Marcus sells 300 candy bars at $0.50 each. His total costs are $125. His profits are

a. $25.

b. $124.50.

c. $125.

d. $150.

ANSWER: a

4. Suppose that a firm in a competitive market has the following cost curves:

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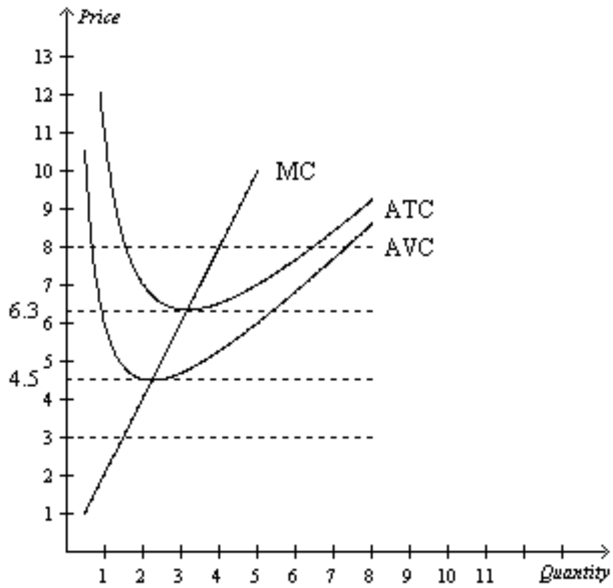

The firm's short-run supply curve is its marginal cost curve above

a. $1.

b. $3.

c. $4.50.

d. $6.30.

ANSWER: c

5. Refer to the Figure in Question 4. If the market price falls below $4.50, the firm will earn

c. positive economic profits in the short run.

d. negative economic profits in the short run but remain in business.

e. negative economic profits in the short run and shut down.

f. zero economic profits in the short run.

ANSWER: c

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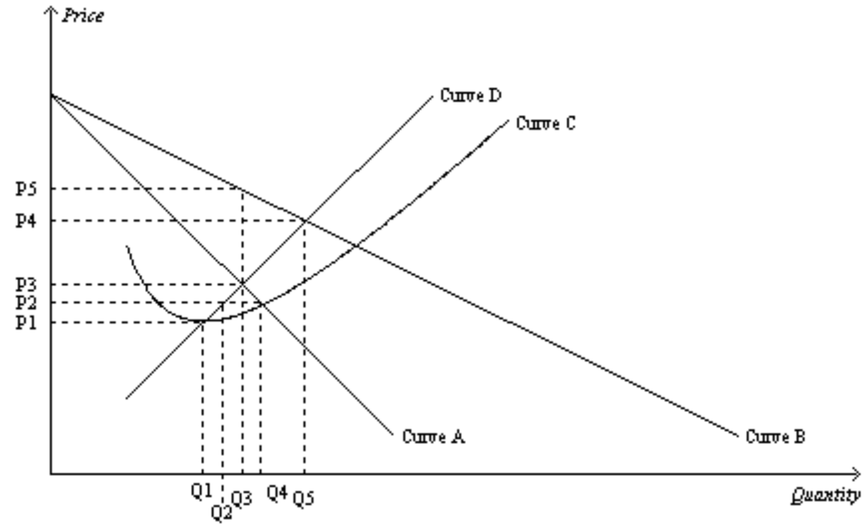

6.

The marginal revenue curve for a monopoly firm is depicted by curve

a. A.

b. B.

c. C.

d. D.

ANSWER: a

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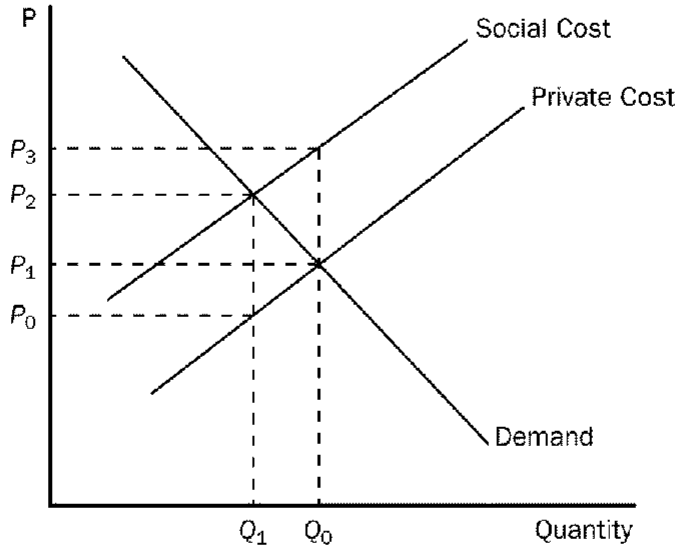
PART II. Short-Answer Question:

1. [20%] Using a supply and demand diagram, demonstrate how a negative externality leads to market inefficiency. How might the government help to eliminate this inefficiency?

ANS:



When a negative externality exists, the private cost (or supply curve) is less than the social cost. The market equilibrium quantity of Q0 will be greater than the socially optimal quantity of Q1. The government could help eliminate this inefficiency by taxing the product. In this example, the size of the per-unit tax would be P3 - P1 (or P2 - P0).

2. [10%]

Labor	Output	Marginal Product	Variable Cost	Fixed Cost
0	0	--	$0	$5
1	100	100	$5	$5
2	250		$10	$5
3	350		$15	$5
4		50	$20	$5
5		25	$25	$5
6	430		$30	$5

What is the average total cost of producing 425 units of output?

ANS: ATC = TC/Q = $30/425 = $0.07.

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3. [10%] Graphically depict the deadweight loss caused by a monopoly. How is this similar to the deadweight loss from taxation?

   ANSWER: A profit-maximizing monopolist will choose to produce Q0 units of output and sell at price P0. However, marginal cost is MC0. This is identical to the deadweight loss of taxation when the tax forces a wedge between market price and marginal cost.

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[Extra paper]