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Econ 2016: Principles of Microeconomics

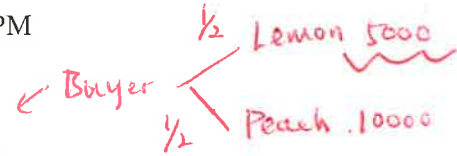
Homework 10 (Total score: 20 Points)

Due Date: Nov 28 (Mon), 12:40 PM

Seller (lemon) = \$2000
Seller (peach) = \$8500

1. Multiple Choice

$$E(\text{pay}) = \frac{1}{2} \times 5000 + \frac{1}{2} \times 10000 = 7500$$



C 1/2 1. (1 point) You are in the market for a used 2013 Honda Accord. You know that half of the 2013 Accords are lemons and half are peaches. If you could be assured that the Accord you were buying was a peach, you would be willing to pay up to \$10,000. On the other hand, you would only be willing to pay \$5,000 for a lemon. You have no ability to discern whether any particular Accord is a lemon or a peach. Sellers of Accords, on the other hand, are likely to know whether their particular car is a lemon or a peach. Suppose sellers of lemons will sell their cars for \$2,000 or more and peach sellers will be willing to sell their cars for \$8,500 or more. Over time the price in the market for 2013 Accords will _____ and _____ will be traded.

A. be between \$8,500 and \$10,000 for peaches and between \$2,000 and \$5,000 for lemons; both lemons and peaches.

B. be between \$8,500 and \$10,000; only peaches

C. be between \$2,000 and \$5,000 for lemons; only lemons

D. be between \$2,000 and \$10,000; both lemons and peaches

Firstly, Sellers for peaches will quit from the market.

Second, eventually the buy will realize only lemons' owners are in the market, so buyers will only willing to pay be expected value for lemons.

B 2. (1 point) You own a car dealership and pay all of your sales people a flat salary. As a result, they don't work very hard to generate sales. This is an example of

A. adverse selection

B. moral hazard.

C. logrolling.

D. an externality.

A 3. (1 point) As a result of adverse selection problems in the health insurance market, it is likely that over time

A. fewer healthy people will be insured.

B. fewer unhealthy people will be insured.

C. fewer healthy and unhealthy people will be insured.

D. more healthy people will be insured.

A 4. (1 point) The government should be involved in providing health care for all citizens because health care is a "public good."

A. Disagree, because health care is a mixed or private good.

B. Disagree, because health care is a public good that generates a negative externality.

C. Disagree, because health care is a private good that is nonrival and nonexcludable.

D. Agree, because health care is a public good that generates a positive externality in consumption.

A 5. (1 point) The market demand for a public good is the _____. To choose the optimal level of the public good, the government should set the market demand for the public good equal to the _____ of producing it.

- A. vertical sum of individual demand curves; marginal cost.
- B. vertical sum of individual demand curves; average cost.
- C. horizontal sum of individual demand curves; marginal cost.
- D. horizontal sum of individual demand curves; average cost.

6. (1 point) Because people can enjoy the benefits of public goods whether or not they pay for them, they are usually unwilling to pay for them. This describes the
- A. free-rider problem.
 - B. drop-in-the-bucket problem.
 - C. liability rules problem.
 - D. rivalry problem.

2. Calculation Question: 8 Points

Society is made up of two individuals, Bert and Ernie, whose demands for the public good A are given in the figure below. Bert's demand is: $Q_A^B = 50 - P_A$. Ernie's demand is $Q_A^E = 50 - 0.5 \times P_A$. Assume that the public good can be produced at a constant marginal cost of \$10. $MC = \$10$

1. To calculate the market demand for the public goods, you should sum up two persons' willingness to pay (quantity/willingness to pay) for the public good, and make sure all else equal. (1 point)
2. What is the optimal level of outputs for the public good? (Tips: The optimal level of outputs should satisfy: Total willingness to pay = MC.) Please round your response to the nearest integer. (3 points)

Bert's WTP = $P_A^B = 50 - Q_A^B$
 Ernie's WTP = $P_A^E = (50 - Q_A^E) \times 2$; total WTP = $(50 - Q_A^B) + (50 - Q_A^E) \times 2$
 $= 50 - Q_A^B + 100 - 2Q_A^E$

3. How much should you charge Bert? (2 point)

Since $Q_A^* = 47$ $P_A^{B*} = 50 - 47 = \$3$.

4. How much should you charge Ernie? (2 point)

$P_A^{E*} = (50 - 47) \times 2 = \6

since it's a public goods, the market supply should be ~~fixed~~ fixed at $Q_A = Q_A^B = Q_A^E$

\Rightarrow total WTP = $150 - 3Q_A$
 By using total WTP = MC

3. Short-Answer Question: 6 Points

Please briefly describe how the adverse selection happened in Akerlof's lemon market.

Answer:

players $\left\{ \begin{array}{l} \text{Buyers} \\ \text{Sellers} \end{array} \right.$ $\left\{ \begin{array}{l} \frac{1}{2} \text{ Lemons} \\ \frac{1}{2} \text{ peaches} \end{array} \right.$
 setting: Buyers don't know the cars' real quality but sellers know (Asymmetric information)

However, buyers know there are $\frac{1}{2}$ ~~cars~~ good cars and $\frac{1}{2}$ bad cars.

Results: only ~~good~~ ^{bad} cars will be traded in the market.

we have:
 $150 - 3Q_A = 10$
 $140 = 3Q_A$
 $Q_A^* = 47$