In Class Quiz

July 7, 2023

Q1. There are three households in a community. Their demand curves for public television in hours of programming, Q, are given respectively by:

$$P1 = \$200 - Q,$$

$$P2 = \$240 - Q,$$

$$P3 = \$320 - 2Q.$$

Suppose public television is a public good that can be produced at a cost of $200 per hour.

(a) What is the efficient number of hours of public television?

(b) How much public television would a competitive private market provide? (Hint: the price at the competitive market would be just equal to the corresponding marginal cost)

(c) If the government charges each group for watching public TV at price of $200/hour, then it becomes excludable. In such cases, how many hours of programming would each of the group consume, respectively? How many hours of programming would the government provide in the market?

Q2. The mayor of Newton is considering proposals to deal with an unsafe intersection. She could install a traffic light at a cost of $50,000 or she could install stop signs at a cost of $5,000. The traffic light is expected to reduce the risk of fatality by 0.45% and the stop signs are expected to reduce the risk of

fatality by 0.054%. If the value of human life is estimated to be $10 million, what choice should the mayor make? **Briefly explain.**

Q3. Consider the following goods:

• fire-protection services provided by a fire department

• a beautiful mural on the outside wall of a fire station

• a firefighter's helmet

(a) Which of these goods is the best example of a private good? **Briefly explain.**

(b) Which of these goods is the best example of a public good? **Briefly explain.**

(c) Which of these goods is the best example of a common resource? **Briefly explain.**