

Ec306 Homework 4

1. Sam's utility function is $U(x, y) = 2x + y$. Sam has \$200 to spend per week, and x and y are his amounts consumed per week. The price of x is \$4 a unit. Sam currently doesn't consume any y , but Sam has received an invitation to join a club devoted to consumption of y . If he joins the club, Sam can get a discount on the purchase of y . If he belonged to the club he could buy y for \$1 a unit. How much is the most Sam would be willing to pay to join this club?
 - a nothing
 - b \$100 a week
 - c \$50 a week
 - d \$40 a week
 - e None of the above.
2. A peck is $1/4$ of a bushel. If the price elasticity of demand for bran is -0.20 when bran is measured in bushels, then when bran is measured in pecks, the price elasticity of demand for bran will be:
 - a $-.05$
 - b $-.80$
 - c $-.10$
 - d $-.40$
 - e None of the above.
3. A theatre can sit 1000 patrons. The number of tickets that will sell at a price p is given by the formula $q = 800 - 20p$. At what price will total ticket revenue be maximized?
 - a 80
 - b 40
 - c 20
 - d 10
 - e None of the above.

4. The demand for pickles is given by $p = 131 - 2q$ and supply is given by $p = 5 + 7q$. What is the equilibrium quantity?
- a** 11
 - b** 14
 - c** 19
 - d** 103
 - e** None of the above.
5. The inverse demand function for video games is $p = 240 - 2q$ and the inverse supply is $p = 3 + q$. When the government imposes a \$6 tax on each video game purchased:
- a** consumers' surplus falls by more than producers' surplus.
 - b** producers' surplus falls by more than consumers' surplus.
 - c** consumers' surplus and producers' surplus fall by the same amount.
 - d** consumers' surplus falls and producers' surplus increases.
 - e** producers' surplus falls and consumers' surplus increases.
6. The market for tennis shoes has a horizontal supply curve and a linear, downward-sloping demand curve. Currently the government imposes a tax of t on every pair of tennis shoes sold and does not tax other goods. The government is considering a plan to double the tax on tennis shoes, while leaving other goods untaxed. If the tax is doubled, then:
- a** the total deadweight loss caused by the doubled tax will be exactly twice the original deadweight loss.
 - b** the total deadweight loss caused by the doubled tax will be more than twice the original deadweight loss.
 - c** the total deadweight loss caused by the doubled tax will be less than twice the original deadweight loss.
 - d** to know if doubling the tax would more than double the deadweight loss, we would have to know the slope of the demand curve.
 - e** None of the above.

This homework is due in class Tues. Oct. 26.

Please show your reasoning along with your answers.