ECN 221 Chapter 4 practice problems – This is not due for a grade

1. Carefully define each of the following. Provide both a formula and a written definition. What is the sign of each of these elasticities? Explain.
   a. The price elasticity of demand
   b. The income elasticity of demand
   c. The cross-price elasticity of demand

2. Explain how the income elasticity of demand can be used to determine if a good is normal or inferior.

3. Consider the following demand curve:

   a. (4) Calculate the price elasticity of demand between points A and B. Would you characterize this as elastic or inelastic? Explain. What will happen to revenue if there is a price increase in this range? Explain.

   b. (3) Calculate the price elasticity of demand between points C and D. Would you characterize this as elastic or inelastic? Explain.

   c. (3) Why does the elasticity change over the length of the demand curve? (You may provide either a mathematical or an intuitive explanation).

4. What are the determinants of the price elasticity of demand? Use these to give an example of a good for which demand is likely to be elastic, and a good for which demand will be inelastic.

5. Assume the following about good “A”:
   - The income elasticity of demand = 0.90
   - The price elasticity of demand = -3.0
   - The cross price elasticity of demand with respect to the price of good “B” = 1.0

   (a) Is the demand for good A elastic or inelastic? Explain.
   (b) Is good A a normal good or an inferior good? Explain.
   (c) Are A and B complements or substitutes? Explain.

6. The price of a newspaper increases by 10% and quantity demanded of newspapers falls by 10%. The demand for newspapers is

   A. perfectly elastic.
   B. unitarily elastic.
   C. elastic.
   D. inelastic.
7. If the percentage change in quantity demanded for a product is less than infinite but greater than the percentage change in price, then the demand for the good is
   A. inelastic.
   B. elastic.
   C. unitarily elastic.
   D. perfectly elastic.

8. As you move down a straight-line downward-sloping demand curve, the price elasticity of demand
   A. becomes more elastic.
   B. becomes more inelastic.
   C. remains constant because the slope is constant.
   D. may become more or less elastic depending on the slope of the demand curve.

9. Refer to the Figure to the right. The demand for milkshakes is unitarily elastic at point C. If the price of a milkshake is reduced from P3 to P4, total revenue
   A. will increase.
   B. will decrease.
   C. will remain constant.
   D. could either increase or decrease.

![Demand Curve Diagram]

10. If the quantity demanded of tea increases by 2% when the price of coffee increases by 8%, the cross-price elasticity of demand between tea and coffee is
    A. -25.
    B. 25.
    C. -0.25
    D. 0.25
    E. -4.
    F. 4.

11. True or False: If demand is perfectly elastic, even the smallest increase in price will cause quantity demanded to decrease to zero.

12. True or False: A product with few substitutes is likely to have an elastic demand.

13. True or False: The cross-price elasticity between X and Y is positive. An increase in the price of X will cause the demand for Y to decrease.