

## Microeconomics, Module 4, "Consumers in the Marketplace"

### Homework Assignment

(The attached PDF file has better formatting.)

The first four homework problems review elasticities; show the formula (or the solution method) and the solution.

#### Exercise 4.1: Price Elasticity of Demand

The price of a good is \$200, and the quantity demanded is 2,000. The price elasticity of demand is  $-1.25$ . If the price changes to \$204, what is the new quantity demanded?

#### Exercise 4.2: Income Elasticity of Demand

A consumer's income is \$40,000, and the quantity demanded of a good is 2,000. The income elasticity of demand is  $+0.60$ . If the consumer's income changes to \$41,000, what is the new quantity demanded?

#### Exercise 4.3: Income Elasticity of Demand

What is the income elasticity of demand for a laptop computer? Assume there is no inflation from 20X8 to 20X9 and all other items are held constant, such as the consumer's assets and relative prices of goods.

	<u>20X8</u>	<u>20X9</u>
• Income	\$50,000	\$55,000
• Price	\$2,000	\$2,000
• Quantity	1,000	1,100

#### Exercise 4.4: Linear Demand Curve

If the demand curve is  $Q = \alpha + \beta P$ , what is the elasticity as a function of  $P$ ?

#### Exercise 4.5: Shape of Elasticity Curve

Several of the illustrative test questions and practice problems discuss whether the price elasticity of demand increases or decreases (or remains constant) as the price increases. The shape of the price elasticity of demand curve is not the same for all goods, and it is not the same for a population vs an individual. Explain whether you would expect the price elasticity of demand to increase or decrease in absolute value as the price increases. A one paragraph explanation is sufficient for the homework, though you may expand on your answer to explain different scenarios that occur in practice.

*Question:* What is this exercise asking?

*Answer:* Bread has a downward sloping demand curve. If bread is cheap, such as 50¢ a loaf, consumers buy all they can eat. If bread is 40¢ a loaf, they still buy all they can eat. What is the price elasticity of demand in this price range? But if bread is expensive, such as \$10 a loaf, consumers may buy one loaf of bread a week. If bread is \$20 a loaf, consumers may buy one loaf of bread a month. What is the price elasticity of demand in this range?]