Elasticities of Demand Problem Set 2

Principles of Microeconomics

August 5, 2025

Instructions

Please answer on a separate sheet of paper and submit on Gradescope.

Multiple Choice

Please briefly explain your choice with a sentence.

1. An increase in a good's price reduces the total amount consumers spend on the good if the __________ elasticity of demand is __________ than one.

   (a) income; less

   (b) income; greater

   (c) price; less

   (d) price; greater

2. A linear downward-sloping demand curve is

   (a) inelastic.

   (b) unit elastic.

   (c) elastic.

   (d) inelastic at some points and elastic at others.

3. The citizens of Lilliput spend a higher fraction of their income on food than do the citizens of Brobdingnag. The reason could be that

   (a) Lilliput has lower food prices, and the price elasticity of demand is zero.

   (b) Lilliput has lower food prices, and the price elasticity of demand is 0.5.

   (c) Lilliput has lower income, and the income elasticity of demand is 0.5.

   (d) Lilliput has lower income, and the income elasticity of demand is 1.5.

Free Response

4. A price change causes the quantity demanded of a good to decrease by 30% while the total revenue of that good increases by 15%. Is the demand curve elastic or inelastic? Please explain in a sentence.

5. Two drivers, Walt and Jessie, each drive up to a gas station. Before looking at the price, each places an order. Walt says, "I'd like 10 gallons of gas." Jessie says, "I'd like $10 worth of gas." What is each driver's price elasticity of demand? Please explain in two sentences.

6. Suppose that your demand schedule for pizza is as follows:

Price	**Quantity Demanded income = $20,000**	**Quantity Demanded income = $24,000**
$8	40 pizzas	50 pizzas
10	32	45
12	24	30
14	16	20
16	8	12

   (a) Use the midpoint method to calculate your price elasticity of demand as the price of pizza increases from $8 to $10 if (i) your income is $ 20,000 and (ii) your income is $24,000. Please show all relevant calculations.

   (b) Use the midpoint method to calculate your income elasticity of demand as your income increases from $20,000 to $24,000 if (i) the price is $12 and (ii) the price is $16.

7. How long did this problem set take you?