

The Concept of Elasticity – Questions

1. Price Elasticity of Demand

The following demand function is given: $p = 10 - \frac{1}{5} \cdot q$ with p = price and q = quantity.

- a) Complete the following table and draw the demand curve in the diagram below.

p	q
10	0
9	5
8	10
7	15
6	20
5	25
4	30
3	35
2	40
1	45
0	50

- b) Calculate the price elasticity of demand when the price increases from $p_1 = 2$ to $p_2 = 3$. Use the midpoint method. Is the demand elastic or inelastic?
- c) Calculate the price elasticity of demand when the price increases from $p_3 = 8$ to $p_4 = 9$. Use the midpoint method. Is the demand elastic or inelastic?
- d) At which point of the demand function is the demand unit elastic?



2. Income Elasticity of Demand

- a) A person's income increases by 10 %. Therefore, she consumes 5 % more potatoes. Calculate the income elasticity of demand. Is it positive or negative?
Are potatoes a normal good or an inferior good?
- b) Another person's income declines by 10 %. He purchases 10 % more canned food. Calculate the income elasticity of demand. Is it positive or negative?
Is canned food a normal good or an inferior good?
- c) Product A has an income elasticity of 0.5 whereas product B has an income elasticity of 3. One of the two products is bread. The other one is a sports car. Which product is the bread and which one is the sports car?

3. Cross Price Elasticity of Demand

- a) There are two goods: product X_1 and product X_2 . Market research has shown that the demand for product X_2 increases from 12,300 units to 17,700 units when the price of product X_1 increases from $P_{1(\text{initial})} = 225.60 \text{ €}$ to $P_{1(\text{new})} = 254.40 \text{ €}$.
Use the midpoint method to calculate the cross-price elasticity of demand.
Are the two products substitutes or complements?
- b) There are two other goods: good X and good Y. The price of good X increases from $P_x = 3.45 \text{ €}$ to $P_x = 5.69 \text{ €}$. The demand for good Y decreases by 65 units.
Are the two goods substitutes or complements?

4. Price Elasticity of Supply

What is the price elasticity of supply of Picasso paintings?