

Exercise walk-through

2.5

Other Elasticities

AP Microeconomics

The law of demand

Other conditions unchanged

At \$10, buyers want 100 units; at \$12, they want 85. They move along one demand curve.

Substitution effect : alternatives become relatively cheaper.

Income effect : purchasing power falls.

Demand is the whole relationship; **quantity demanded** is the amount wanted at one price.



What shifts each curve, and what a market needs first

property rights	well-defined rights support exchange – owners can use, exclude others from, and transfer what they own
demand shifters	TRIBE: Tastes, Related goods, Income, Buyers (number of consumers), Expectations
supply shifters	input prices, technology, taxes and subsidies, number of sellers, expectations
horizontal summation	the market curve is the individual curves added across quantities at each price
the determinants	anything except the good's own price – which moves you <i>along</i> the curve
the exam skill	you must draw correctly labelled supply-and-demand graphs and shift the right curve in the right direction

Match the requested graph: label both axes, both curves and the equilibrium. Marks follow the task and official scheme, not the order in which you write.

Price elasticity of supply

Two firms face the same price rise

Both start at $P = \$10$, $Q_s = 100$. Price rises to \$12. Firm A supplies 110 units; firm B supplies 140.

$$E_s = \frac{\% \Delta Q_s}{\% \Delta P}$$

Attempt: calculate each percentage change from its initial value. Which firm has elastic supply? What might spare capacity or more time allow?

Vertical supply: perfectly inelastic ($E_s = 0$). Horizontal supply: perfectly elastic. Use percentage changes to classify other curves.

Exercises 2.1-2.3

2.1 State what a **positive** cross-price elasticity means about two goods. [1]

2.2 State what a **negative** income elasticity means about a good. [1]

2.3 When income rises 10%, demand for a good falls 5%. Find the income elasticity and classify the good. [2]

Exercises 2.1-2.3

2.1 State what a **positive** cross-price elasticity means about two goods. [1]

2.1

- they are substitutes
-

2.2 State what a **negative** income elasticity means about a good. [1]

2.2

- it is an inferior good
-

2.3 When income rises 10%, demand for a good falls 5%. Find the income elasticity and classify the good. [2]

2.3

- $YED = \frac{-5\%}{10\%} = -0.5$; negative, so it is an **inferior** good

Exercises 3.1-3.2

3.1 Two goods with a **negative** cross-price elasticity are

[1]

☐

A substitutes

B complements

C normal goods

D inferior goods

☐

3.2 A normal good has an income elasticity that is

[1]

A negative

B zero

C positive

D infinite

Exercises 3.1-3.2

3.1 Two goods with a **negative** cross-price elasticity are

[1]

☐

- A substitutes
- B complements
- C normal goods
- D inferior goods

3.1 B

- complements.

3.2 A normal good has an income elasticity that is

[1]

☐

- A negative
- B zero
- C positive
- D infinite

3.2 C

- positive.

Exercise 3.3 (a)

3.3 The price of tea rises 20% and the quantity of coffee demanded rises 10%.

(a) Find the cross-price elasticity.

[2]

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3.3 The price of tea rises 20% and the quantity of coffee demanded rises 10%.

(a) Find the cross-price elasticity.

[2]

(a)

- $$\text{XED} = \frac{+10\%}{+20\%} = +0.5$$

Exercise 3.3 (b)

3.3 The price of tea rises 20% and the quantity of coffee demanded rises 10%.

(b) State whether tea and coffee are substitutes or complements.

[1]

Exercise 3.3 (b)

3.3 The price of tea rises 20% and the quantity of coffee demanded rises 10%.

(b) State whether tea and coffee are substitutes or complements.

[1]

(b)

- substitutes (positive XED)

Exercise 3.4

3.4 Using the supplied percentage changes, income rises 8% and demand for a good rises 12%. (a) Calculate income elasticity and classify the good. [2]

(b) The price of a second good rises 6% while demand for the first falls 3%, other influences unchanged. Calculate cross-price elasticity and classify the relationship. [2]

Exercise 3.4

3.4 Using the supplied percentage changes, income rises 8% and demand for a good rises 12%. (a) Calculate income elasticity and classify the good. [2]

(b) The price of a second good rises 6% while demand for the first falls 3%, other influences unchanged. Calculate cross-price elasticity and classify the relationship. [2]

3.4

(a) $YED = 12/8 = 1.5$; positive, so the good is normal in this range.

(b) $XED = -3/6 = -0.5$; negative, so the goods are complements in this range.