Exercise walk-through

Consumer and producer surplus ▪ 2.5

eXercise

You must be able to

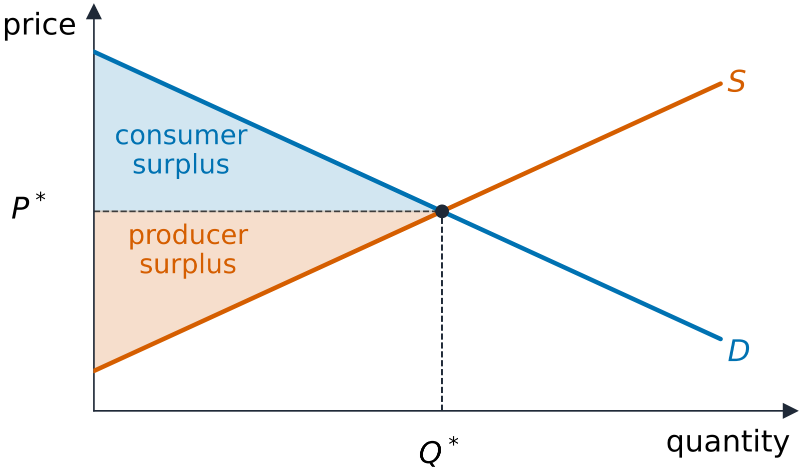
- define and shade **consumer surplus 消费者剩余** and **producer surplus 生产者剩余**
- explain how a price or curve change affects each surplus
- analyse surplus as a measure of welfare **福利**

Method — The two surpluses

- **Consumer surplus:** the gap between the most a buyer would pay and the price actually paid (area **below demand, above price**).
- **Producer surplus:** the gap between the price received and the lowest a seller would accept (area **above supply, below price**).
- A **higher price** raises producer surplus but lowers consumer surplus; a **rise in supply** lowers price → raises consumer surplus.

Answer shapes: an **Explain [up to 8]** answer should use a labelled diagram (AO3); **Discuss [12]** adds a judgement (AO4).

Method — The two surpluses



Practice 2.1 ▪ 2 marks

Define the term *consumer surplus*.

Solution 2.1

Method: The two surpluses

Worked steps

the difference between the most a consumer is willing to pay and the price actually paid (2 for a clear definition; 1 for a partial idea).

Practice 2.2 ▪ 1 mark

State where **producer surplus** is shown on a demand and supply diagram.

Solution 2.2

Method: The two surpluses

Worked steps

the area above the supply curve and below the price line (1).

Practice 2.3 ▪ 1 mark

State the effect on consumer surplus of a fall in the market price.

Solution 2.3

Method: The two surpluses

Worked steps

consumer surplus rises (1).

Exam-style 3.1 ▪ 1 mark

Consumer surplus is the area:

A above the demand curve and below the price

B below the demand curve and above the price

C above the supply curve and below the price

D below the supply curve and above the price

Solution 3.1

Method: The two surpluses

A above the demand curve and below the price

B below the demand curve and above the price ✓

C above the supply curve and below the price

D below the supply curve and above the price

Worked steps

B. Consumer surplus is below the demand curve and above the price.

Exam-style 3.2 ▪ 8 marks

Using a diagram, explain how an increase in supply affects consumer surplus.

Solution 3.2

Method: The two surpluses

Worked steps

[8] AO1 1 + **AO3 diagram up to 4** (demand and supply, supply shifts right, price falls) + AO2/AO3 up to 3 — a rise in supply lowers the equilibrium price and raises quantity → the area below demand and above the new lower price is larger → consumer surplus rises.

Exam-style 3.3 ▪ 8 marks

Discuss whether a rise in the market price always reduces total welfare.

Solution 3.3

Method: The two surpluses

Worked steps

[8] AO1/AO2/AO3 up to 5 + AO4 up to 3. **Yes:** a higher price (curves fixed) cuts consumer surplus and quantity traded, lowering welfare. **But:** producer surplus rises, and if the price rise came from higher demand, total welfare can still rise as more is traded. Judgement: the effect on total welfare depends on *why* the price rose — a tax or restriction lowers welfare, but a demand-led rise need not.