IGCSE ECONOMICS · 1.1 THE MARKET SYSTEM · CHAPTER 8 · PAPER 1

Price Elasticity of Demand

Topic question sheet L08 | **Total: 33 marks** | **Time: 35 minutes** | **Student Book pp. 48–55**

Instructions: answer **all** questions. Write your answers on lined paper. The marks for each question are shown in brackets: use them as a guide to how much to write.

Calculators may be used. Show your working. Draw diagrams in pencil and label them fully. The mark scheme starts on a new page: do not look at it until you have finished.

Section A: Multiple choice

One mark each. Choose **one** answer: A, B, C or D.

1 What is the PED for a perfectly inelastic demand curve? **(1)**

A −1 **B** 0
C −0.1 **D** Infinity

2 If the PED for a product is −0.87, an increase in price will cause: **(1)**

A an increase in quantity demanded **B** a decrease in demand for a substitute
C a rise in total revenue **D** a fall in total revenue

3 If the PED for a firm's product is −2, a 10% increase in price will result in a: **(1)**

A 10% increase in revenue **B** 10% decrease in quantity demanded
C 20% increase in revenue **D** 20% decrease in quantity demanded

4 Which of the following is likely to have the most price elastic demand? **(1)**

A Salt **B** Electricity
C One brand of strawberry jam **D** Petrol

Section B: Short answers

Define, state, calculate, draw and explain. Show your working for calculations.

5 State the formula for price elasticity of demand. **(1)**

6 Using the extract, calculate the PED for Greenway's bus journeys. You are advised to show your working. **(2)**

7 Calculate the change in Greenway's monthly total revenue after the fare rise. **(2)**

8 Draw a diagram showing a price inelastic demand curve and the effect of a price rise. **(3)**

9 Explain how the availability of substitutes affects PED. **(3)**

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Section C: Data response

Read the extract, then answer the questions. Use evidence from the extract in every answer.

Extract: Greenway Buses

Greenway Buses runs the only bus service between two towns in Ghana. It raised its fare from GHS 10 to GHS 12. The number of passengers each month fell from 50 000 to 47 500.

A new railway line between the two towns is due to open in two years. Greenway's managers are considering a further fare rise to GHS 14.

Fictional case, written for this sheet.

10 With reference to the extract, analyse why demand for Greenway's bus journeys is price inelastic. **(6)**

11 With reference to the extract, evaluate whether Greenway should raise its fare to GHS 14. **(12)**

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Mark scheme: Price Elasticity of Demand

How to mark: Multiple choice, Define, State: 1 mark. **What is meant by** (2): two separate parts to the definition. **Calculate**: working and answer (with units). **Draw** (3): one mark per correct labelled feature. **Explain** (3): 1 for a point, 2 for developing it in context. **Analyse** (6): knowledge 2, application 2, analysis 2. **Assess** (9) and **Evaluate** (12) are marked by levels: choose the level that best fits the whole answer. Indicative content is a guide: credit other valid points.

Section A

1 *What is the PED for a perfectly inelastic demand curve? (1 mark)*

Answer: B (0). Quantity does not change at all.

2 *If the PED for a product is −0.87, an increase in price will cause: (1 mark)*

Answer: C (a rise in total revenue). Demand is inelastic, so total revenue rises when price rises.

3 *If the PED for a firm's product is −2, a 10% increase in price will result in a: (1 mark)*

Answer: D (20% decrease in quantity demanded). −2 × 10% = −20%.

4 *Which of the following is likely to have the most price elastic demand? (1 mark)*

Answer: C (One brand of strawberry jam). It has many close substitutes.

Section B

5 *State the formula for price elasticity of demand. (1 mark)*

% change in quantity demanded ÷ % change in price (1).

6 *Using the extract, calculate the PED for Greenway's bus journeys. You are advised to show your working. (2 marks)*

Working: %ΔQd = (47 500 − 50 000) ÷ 50 000 = −5%; %ΔP = (12 − 10) ÷ 10 = +20% (1).

Answer: −5 ÷ 20 = −0.25 (1).

7 *Calculate the change in Greenway's monthly total revenue after the fare rise. (2 marks)*

Working: 10 × 50 000 = GHS 500 000; 12 × 47 500 = GHS 570 000 (1).

Answer: rise of GHS 70 000 (1).

8 *Draw a diagram showing a price inelastic demand curve and the effect of a price rise. (3 marks)*

Diagram: axes labelled (1); steep demand curve (1); price rise with a small fall in quantity shown (1).

9 *Explain how the availability of substitutes affects PED. (3 marks)*

Point: more close substitutes make demand more elastic (1).

Development: consumers can switch easily when the price rises (1), e.g. strawberry jam vs other jams (1).

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Section C

10 *With reference to the extract, analyse why demand for Greenway's bus journeys is price inelastic. (6 marks · K2 · Ap2 · An2)*

Knowledge (2): PED below 1; few substitutes/necessity.

Application (2): PED −0.25; Greenway is the only bus service; the railway is not open yet.

Analysis (2): passengers who need to travel between the towns have no alternative, so they keep travelling despite higher fares; quantity falls by a smaller % than price.

Knowledge 2 · Application 2 · Analysis 2.

11 *With reference to the extract, evaluate whether Greenway should raise its fare to GHS 14. (12 marks · levels)*

For: demand currently inelastic (−0.25), so revenue would rise again; no substitute for two years.

Against: PED may become more elastic at higher fares or as passengers find alternatives (cars, shared taxis); the railway will offer a substitute, so high fares now may lose loyal customers later; fairness/bad publicity; possible regulation.

Judgement: a rise is likely to raise revenue in the short run, but with a railway coming Greenway may be better building loyalty; depends on how much passengers value the service and how long the railway takes.

Levels: L1 1–3 · L2 4–6 · L3 7–9 · L4 10–12 (balanced, well-developed arguments using the data throughout, and a justified conclusion that answers the question).

Original practice questions written in the style of the Pearson Edexcel International GCSE Economics (4EC1) papers. This is not an official paper. Unless a source is given, the firms, countries and figures are fictional and made up for practice.

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