1.15 Consumer and Producer Surplus and the Incidence of Indirect Taxes: Test Pack

AQA 7136 · Calculators not allowed · about 15 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer all questions. Full sentences are required for questions worth 4 marks or more. Allowed time: 15 minutes. No calculator is needed; round whole-number prices and quantities are used.

1 Multiple choice, market context: which statement defines consumer surplus in a competitive market for a single good?

- ☐ The area above the demand curve and below the market price, measuring the extra benefit consumers receive
- ☐ The area below the supply curve and above the market price, measuring producer receipts
- ☐ The vertical distance between demand and supply at a given quantity
- ☐ The total revenue received by firms at the equilibrium price

(Total for Question 1 is 1 mark)

2 State the formula for the price elasticity of demand (PED) and the price elasticity of supply (PES), and give the economic interpretation of a PED value of -0.5 and a PES value of 2.0 in the context of a typical goods market.

(Total for Question 2 is 2 marks)

3 Define consumer surplus in the context of a competitive market for a product sold at a single equilibrium price.

(Total for Question 3 is 1 mark)

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4 Define producer surplus in the context of a competitive market for a product sold at a single equilibrium price.

(Total for Question 4 is 1 mark)

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5 Explain how an ad valorem indirect tax (for example a 25% tax levied as a proportion of price) imposed on producers differs from a specific per-unit tax in the way it affects the supply curve and the market price. Use the Harwell canned tea market context and make your answer precise. No numerical calculation is required.

(Total for Question 5 is 4 marks)

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Mark scheme · 1.15 Consumer and Producer Surplus and the Incidence of Indirect Taxes: Test Pack

Question 1

correct option selected, interpretation: consumer surplus is the area above demand and below price **B1**

Answer: The area above the demand curve and below the market price, measuring the extra benefit consumers receive.

Question 2

PED formula: % change in quantity demanded / % change in price; PES formula: % change in quantity supplied / % change in price **B1**

interpretation: PED = -0.5 means demand is relatively inelastic, a 1% price rise reduces quantity demanded by 0.5%; PES = 2.0 means supply is relatively elastic, a 1% price rise increases quantity supplied by 2% **B1**

Answer: PED = % change in Qd / % change in P; PES = % change in Qs / % change in P. PED = -0.5 is relatively inelastic demand, PES = 2.0 is relatively elastic supply.

Question 3

a concise definition: the difference between the maximum price consumers are willing to pay and the price they actually pay, summed over all units bought **B1**

Answer: The difference between the maximum price consumers are willing to pay and the price they actually pay, summed over all units bought.

Question 4

a concise definition: the difference between the market price received by producers and the minimum price at which they would supply, summed over all units sold **B1**

Answer: The difference between the market price received by producers and the minimum price at which they would supply, summed over all units sold.

Question 5

identifies that a specific tax shifts the supply curve vertically up by a fixed amount per unit, whereas an ad valorem tax shifts the supply curve in a way that the vertical distance between original and taxed supply increases with price (a percentage wedge) **M1**

explains that with an ad valorem tax the supply curve effectively becomes steeper or pivots, because at higher prices the absolute tax is larger, so the upward shift is larger the higher the price **A1**

applies to Harwell: a 25% ad valorem tax means producers face a tax equal to 25% of the price, so the consumer price will rise by less than 25% but the upward shift varies with price rather than being constant **M1**

concludes that ad valorem taxes generally lead to different changes in equilibrium price and quantity compared with a specific tax, and the incidence may vary with the level of price **A1**

Answer: Specific tax shifts supply up by a fixed vertical amount per unit; ad valorem raises the vertical distance by a proportion of price so the shift increases with price, making the taxed supply steeper and incidence dependent on the price level.

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