

**Economics**  
**Higher level**  
**Paper 3**

Wednesday 4 November 2015 (morning)

Candidate session number

1 hour

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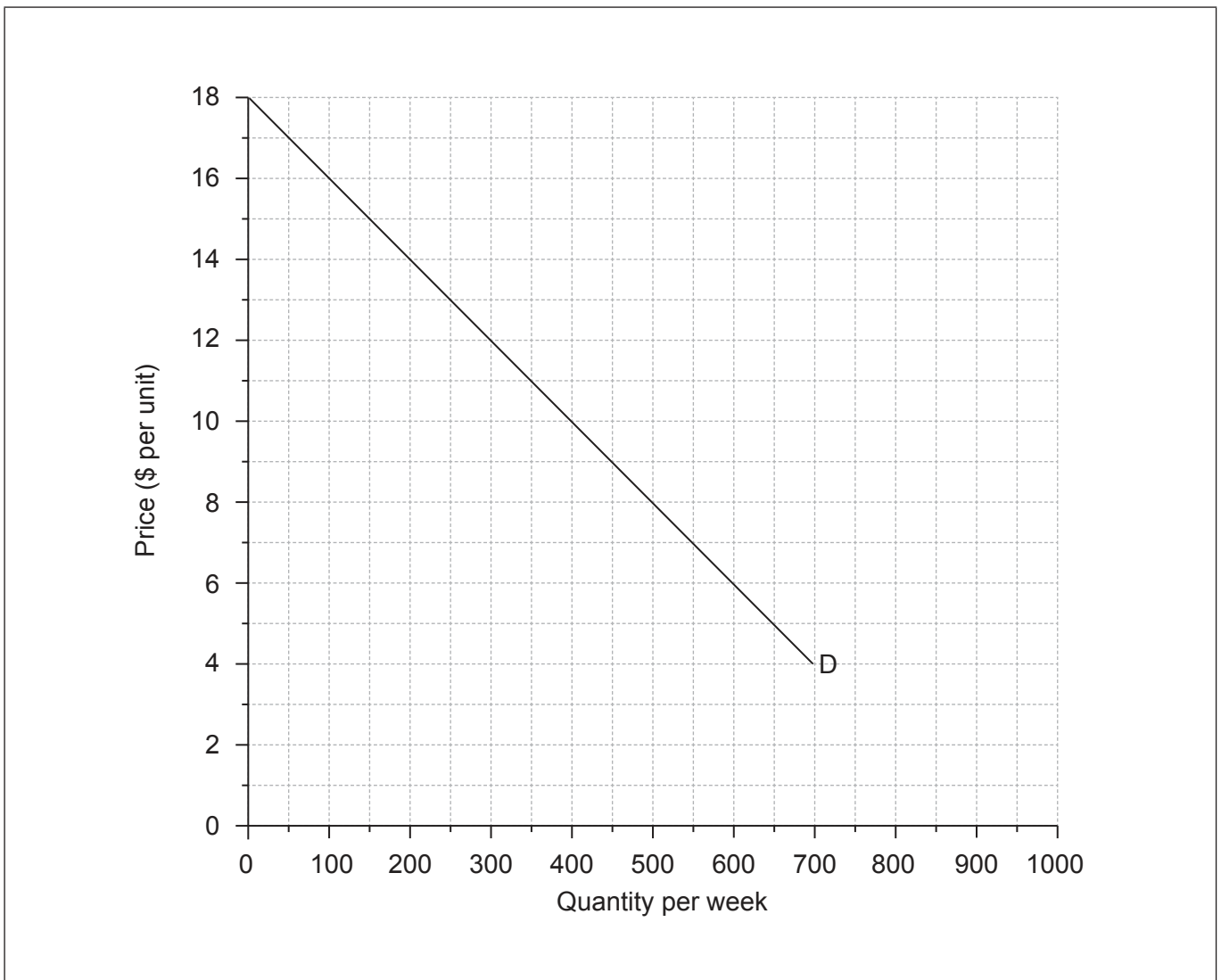
**Instructions to candidates**

- Write your session number in the boxes above.
- You are permitted access to a calculator for this paper.
- Do not open this examination paper until instructed to do so.
- Answer two questions in the boxes provided.
- Unless otherwise stated in the question, all numerical answers must be given exactly or correct to two decimal places.
- You must show all your working.
- The maximum mark for this examination paper is **[50 marks]**.



Answer **two** questions. Each question is worth **[25 marks]**. Write your answers in the boxes provided.

1. The following diagram illustrates the weekly demand for sunglasses in the town of Picton.



The market supply for sunglasses in Picton is given by the equation

$$Q_s = -450 + 100P$$

where  $Q_s$  is the quantity supplied per week and  $P$  is the price per pair of sunglasses in dollars (\$).

(a) (i) On the diagram, plot and label the supply curve for sunglasses in Picton. [2]

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**(Question 1 continued)**

- (ii) Using the diagram, identify the equilibrium price and quantity. [1]

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- (iii) State the price at which 50 pairs of sunglasses will be supplied. [1]

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(b) The government decides to grant a subsidy of \$3 per pair of sunglasses.

- (i) On the diagram, plot and label an appropriate curve to show the effect of the subsidy. [2]

- (ii) Calculate the excess demand or supply at the original equilibrium price. [2]

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- (iii) State the new equilibrium price and quantity. [1]

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**(Question 1 continued)**

- (c) With reference to the diagram on page 2, analyse how the subsidy results in a new market equilibrium and therefore a reallocation of resources used for the supply of sunglasses. [4]

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- (d) (i) Define the term *producer surplus*. [2]

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- (ii) Calculate the level of government expenditure necessary to fund this subsidy. [2]

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**(Question 1 continued)**

(iii) Calculate the change in consumer surplus resulting from the subsidy. [2]

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(iv) Calculate the change in producer surplus resulting from the subsidy. [2]

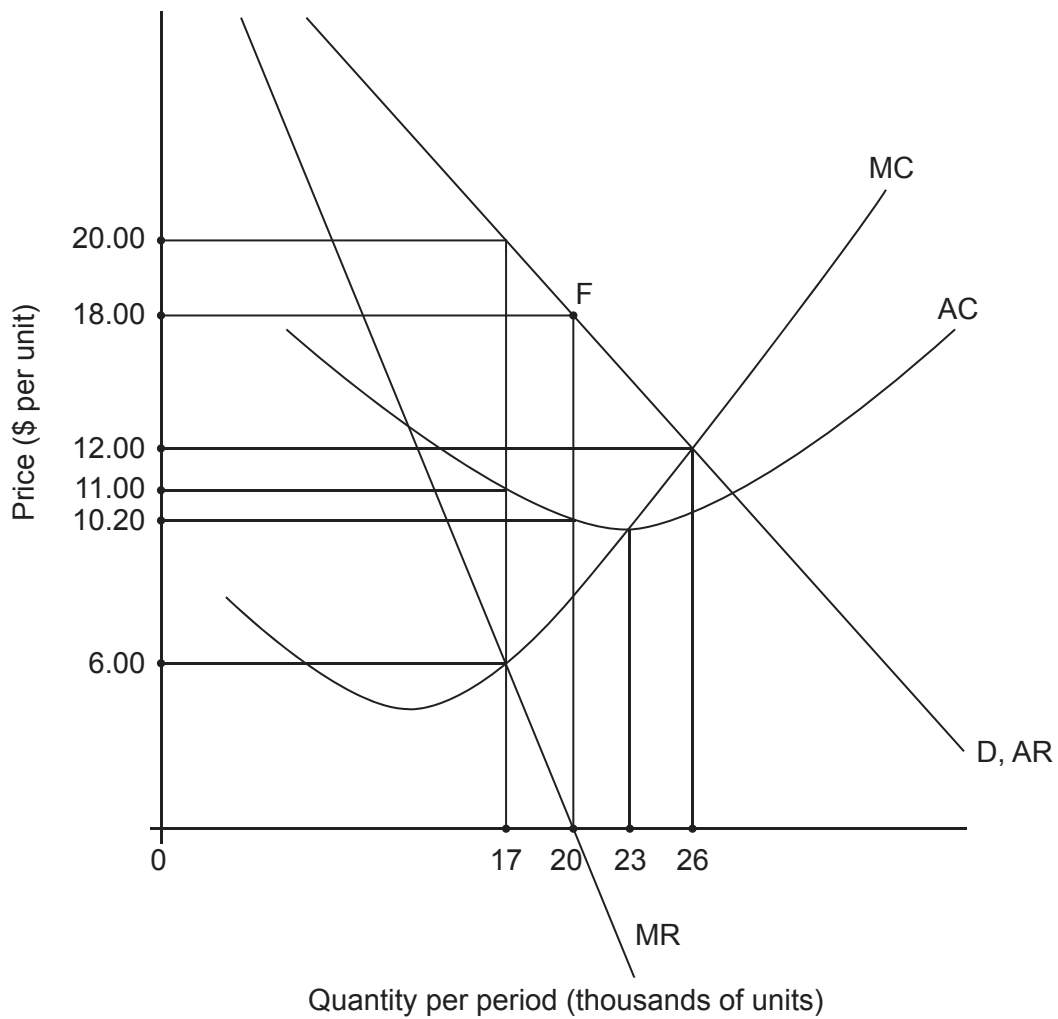
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(e) With reference to the diagram on page 2 and your answers to part (d), explain how the subsidy will impact on allocative efficiency in the market for sunglasses in Picton. [4]

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2. The following diagram illustrates the demand and cost conditions of a firm.



(a) Identify whether this firm is in perfect competition. You **must** give a reason for your choice.

[2]

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**(Question 2 continued)**

(b) Identify the profit maximizing level of output for this firm. You **must** give a reason for your choice. [2]

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(c) Calculate the total revenues **and** the total costs **and** the profits or losses for this firm at the profit maximizing level of output. [3]

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(d) Identify the level of output this firm would choose if instead of profit it aimed at maximizing revenues. You **must** give a reason for your choice. [2]

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**(Question 2 continued)**

- (e) Explain the meaning of the term “allocative efficiency” and its implication for social (community) surplus. [4]

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- (f) Referring to the diagram on page 6, identify the level of output that should be produced for allocative efficiency to be achieved. You **must** give a reason for your choice. [2]

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- (g) Define the term *productive efficiency*. [2]

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**(Question 2 continued)**

- (h) Calculate the price elasticity of demand when the price decreases from \$18.00 per unit to \$12.00 per unit. [2]

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- (i) With reference to the firm's revenues, comment on the price elasticity of demand at point F of the demand curve in the diagram on page 6. [2]

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- (j) Explain why a profit maximizing firm with monopoly power will never choose to operate on the inelastic portion of its average revenue curve. [4]

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3. In Aceland, the “typical basket of goods” purchased by the average consumer consists of 48 pizzas, 120 litres of chocolate milk and 18 jazz concerts. The following table shows the prices for these products in 2013 and 2014.

**Table 1**

	Price per unit in dollars (\$)	
	2013	2014
<b>Pizza</b>	12.50	12.90
<b>Chocolate milk (litres)</b>	1.15	1.25
<b>Jazz concert</b>	45.00	46.00
<b>Total cost of the typical basket</b>		

- (a) (i) Calculate the cost of this basket in 2013 **and** 2014. Enter your answers in **Table 1**.

[2]

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- (ii) Using your results from part (a)(i), calculate a consumer price index (CPI) with 2013 as the base year.

[1]

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**(Question 3 continued)**

(iii) Calculate the rate of inflation in Aceland in 2014. [1]

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(b) Outline the reason why, in addition to a consumer price index (CPI), a producer price index may also be useful to economists. [2]

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**(Question 3 continued)**

The following table shows data for Boarland (all figures in billions of dollars (\$)).

**Table 2**

Year	2007	2008	2009	2010
<b>Nominal GDP</b>	20.7	21.9	22.6	22.3
<b>GDP deflator</b>	100.0	102.3	107.6	103.7
<b>Real GDP</b>	20.7			21.5

- (c) (i) Calculate Boarland's real GDP for 2008 **and** 2009 expressed in 2007 prices. Enter your answers in **Table 2**. [2]

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- (ii) State the reason why a country's gross domestic product (GDP) may be greater than its gross national income (GNI). [1]

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**(Question 3 continued)**

- (iii) Calculate the rate of economic growth for Boarland in 2007–2008, 2008–2009 and 2009–2010. [3]

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- (iv) Using your answer to part (c)(iii), identify the year Boarland was in recession. [1]

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- (v) Using the data in **Table 2** and your answers to part (c), explain how real GDP could decrease while nominal GDP is increasing. [4]

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**(Question 3 continued)**

The Boarland statistical agency has also collected the following data:

**Table 3**

	<b>2013</b>
<b>Population</b>	5 394 735
<b>Number of employed</b>	2 803 600
<b>Working age population</b>	3 895 538
<b>Number of unemployed</b>	456 400

- (d) (i) Calculate the unemployment rate for Boarland in 2013. [2]

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- (ii) Outline **one** difficulty in measuring unemployment. [2]

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- (iii) Explain **two** economic consequences of unemployment. [4]

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