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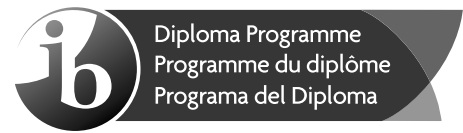
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**Economics
Higher level
Paper 3**

Thursday 16 May 2019 (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.
- Answers must be written within the answer 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]. Answers must be written within the answer boxes provided.

1. Note that widgets are an imaginary product.

In Country X, the supply and demand for widgets are given by the functions

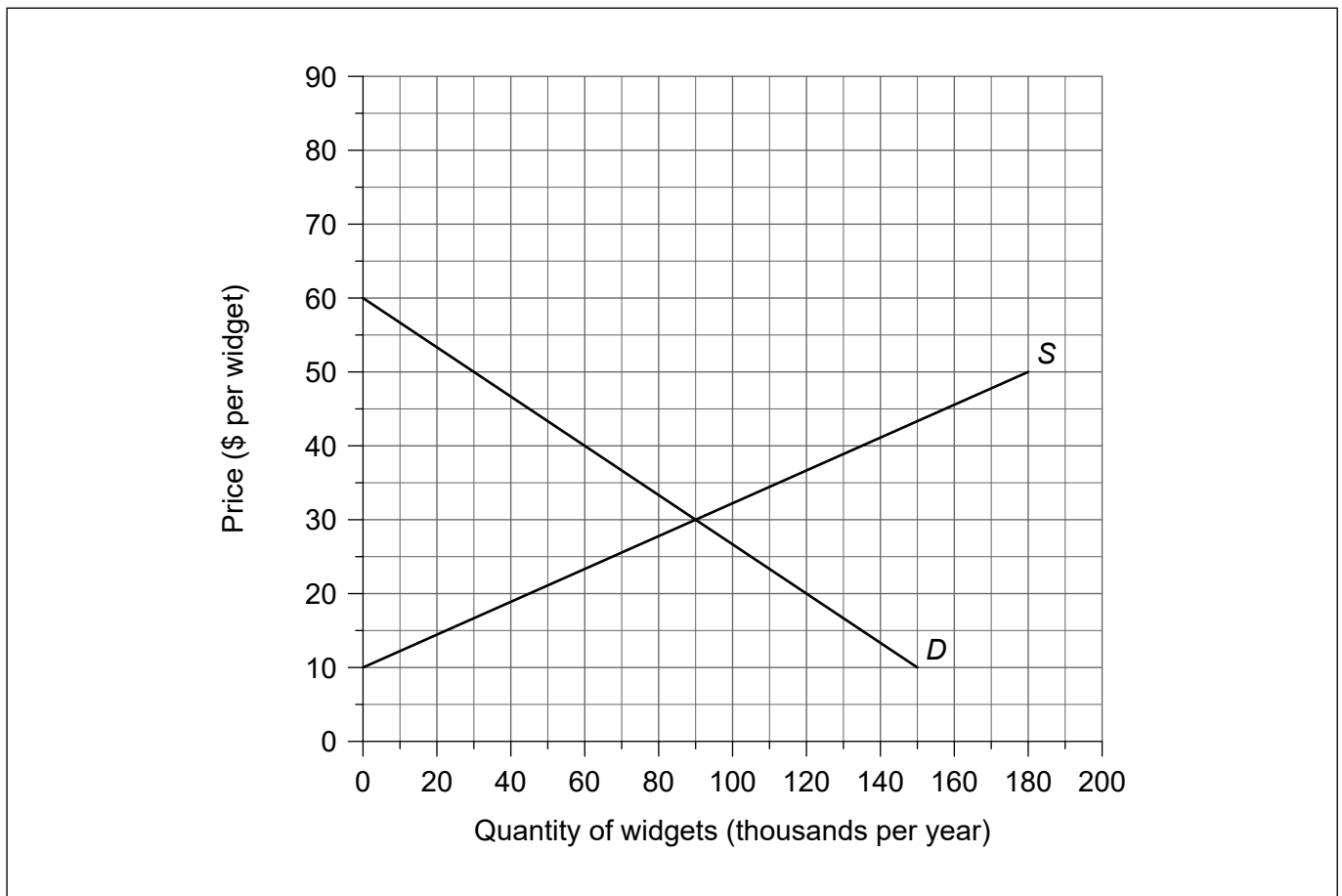
$$Q_s = -45 + 4.5P$$

$$Q_d = 180 - 3P$$

where P is the price per widget in dollars (\$), Q_s is the quantity of widgets supplied (thousands per year) and Q_d is the quantity of widgets demanded (thousands per year).

The supply (S) and demand (D) functions are represented in **Figure 1**.

Figure 1



- (a) Identify the slope of the supply curve.

[1]

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(Question 1 continued)

- (b) Outline the reason why the quantity supplied increases as the price rises. [2]

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An increase in costs of production has resulted in a new supply function:

$$Qs_1 = - 60 + 3P$$

- (c) Draw and label the new supply curve on **Figure 1**. [1]
- (d) Using your answer to part (c), outline the reason why an increase in costs of production has resulted in a new supply function. [2]

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- (e) Calculate the change in producer surplus resulting from the increase in costs of production. [2]

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(Question 1 continued)

(f) Define the term *price elasticity of supply*. [2]

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The time taken to produce goods is an important determinant of the price elasticity of supply.

(g) Apart from time, explain **two** factors which influence the price elasticity of supply. [4]

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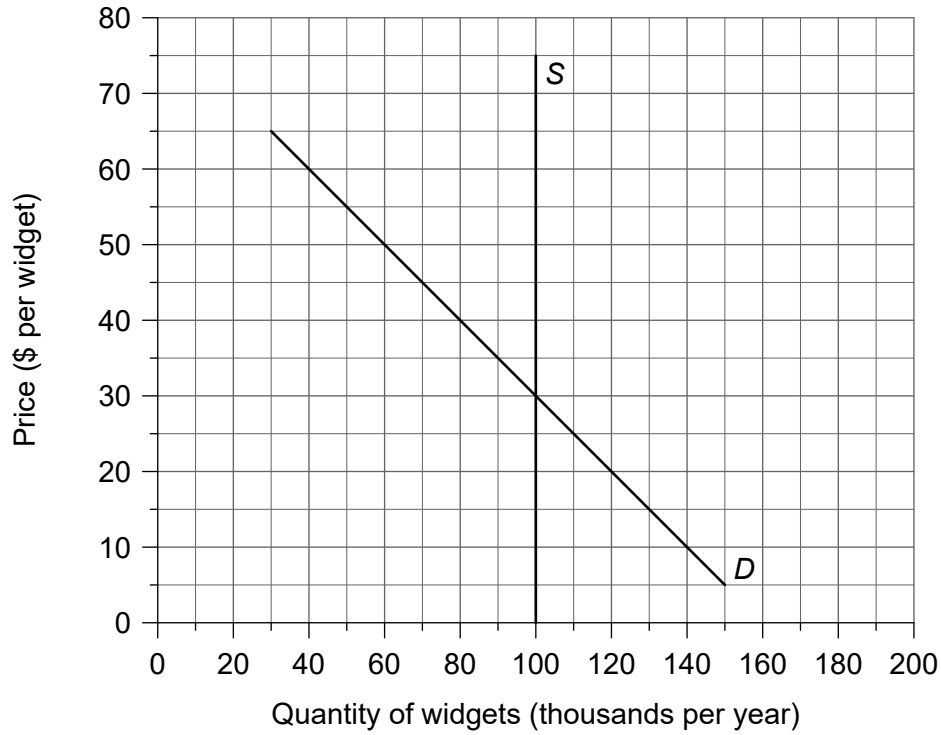
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(Question 1 continued)

Figure 2 shows the demand for and supply of widgets in Country Y.

Figure 2



The government of Country Y decides to impose an indirect tax of \$10 per widget.

- (h) With reference to **Figure 2**, explain how the incidence of taxation on consumers and/or producers will be influenced by the price elasticity of supply. [4]

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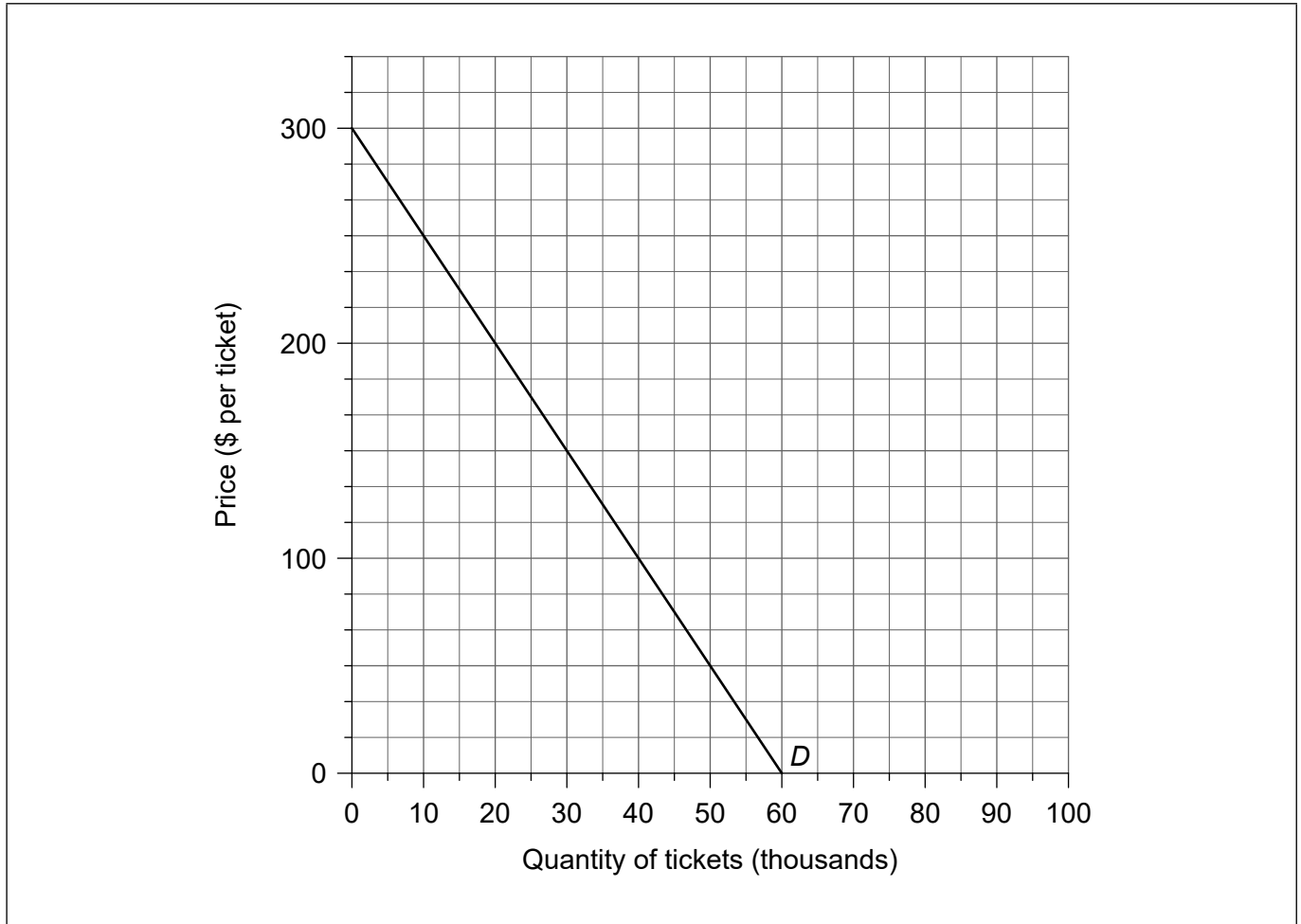
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(Question 1 continued)

A music concert is to take place in Country Z. 40 000 tickets are available for the concert. **Figure 3** shows the demand (D) for tickets at this concert.

Figure 3

- (i) Draw and label the marginal revenue (MR) curve for the concert on **Figure 3**. [1]
- (j) Calculate the maximum revenue that could be earned from selling tickets for the concert. [2]

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(Question 1 continued)

The fixed costs for the concert have been calculated as \$3 million, while it is expected that there will be no variable costs.

- (k) (i) Calculate the average fixed cost per ticket if all tickets are sold. [1]

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- (ii) Assuming the event organizers aim to maximize profit, calculate the profit that will be made from the concert. [3]

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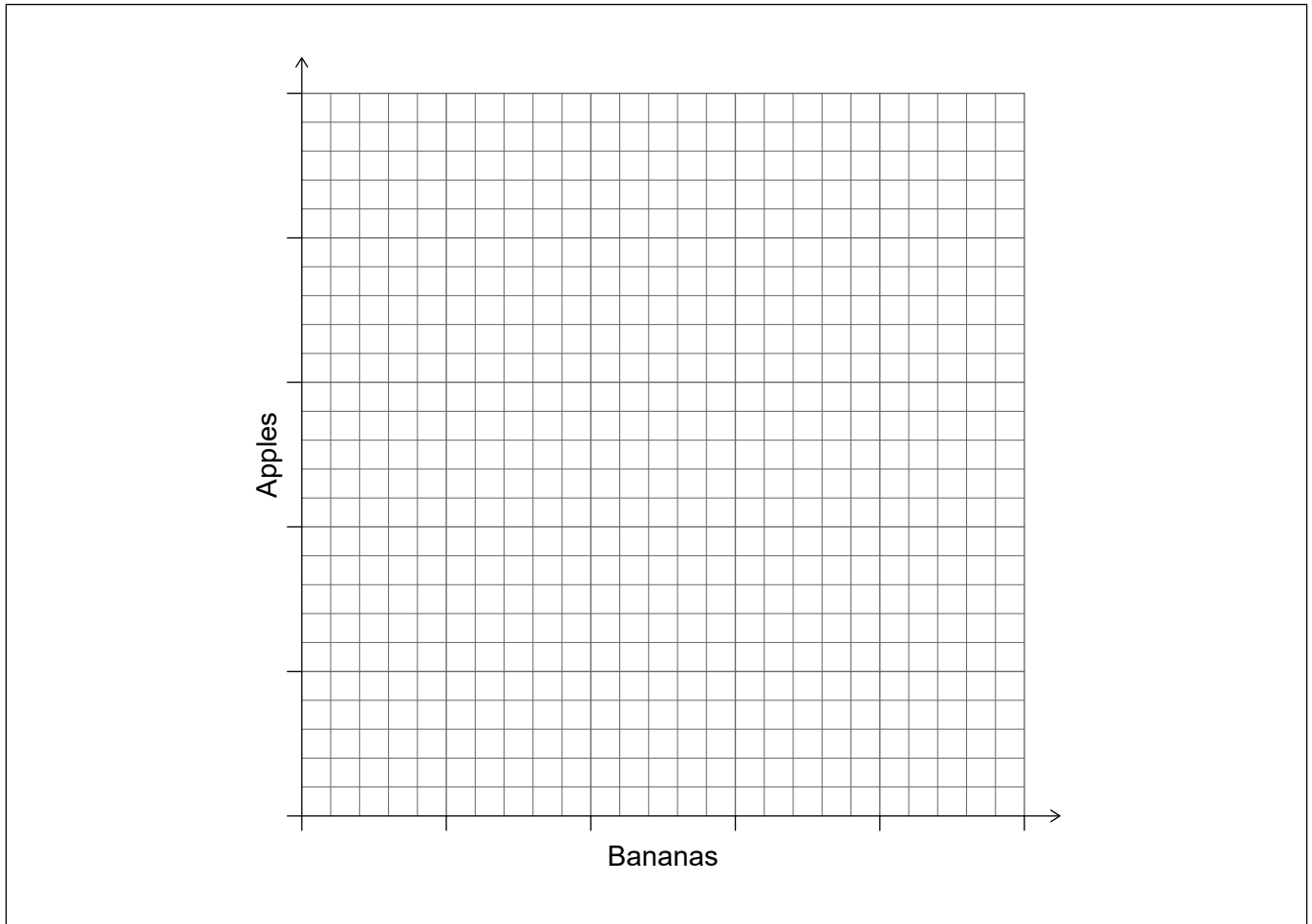


2. Country X and Country Y are capable of producing both apples and bananas. Assume a two-country, two-product model.

Country Y has absolute advantage in the production of both apples and bananas, and comparative advantage in the production of bananas.

- (a) Sketch and label a diagram to illustrate comparative advantage between Country X and Country Y on **Figure 4**. [2]

Figure 4



(This question continues on the following page)



(Question 2 continued)

- (b) Outline the reason why Country X should specialize in the production of apples and Country Y should specialize in the production of bananas. [2]

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- (c) Outline **one** reason why it might not be in a country's best interests to specialize according to the principle of comparative advantage. [2]

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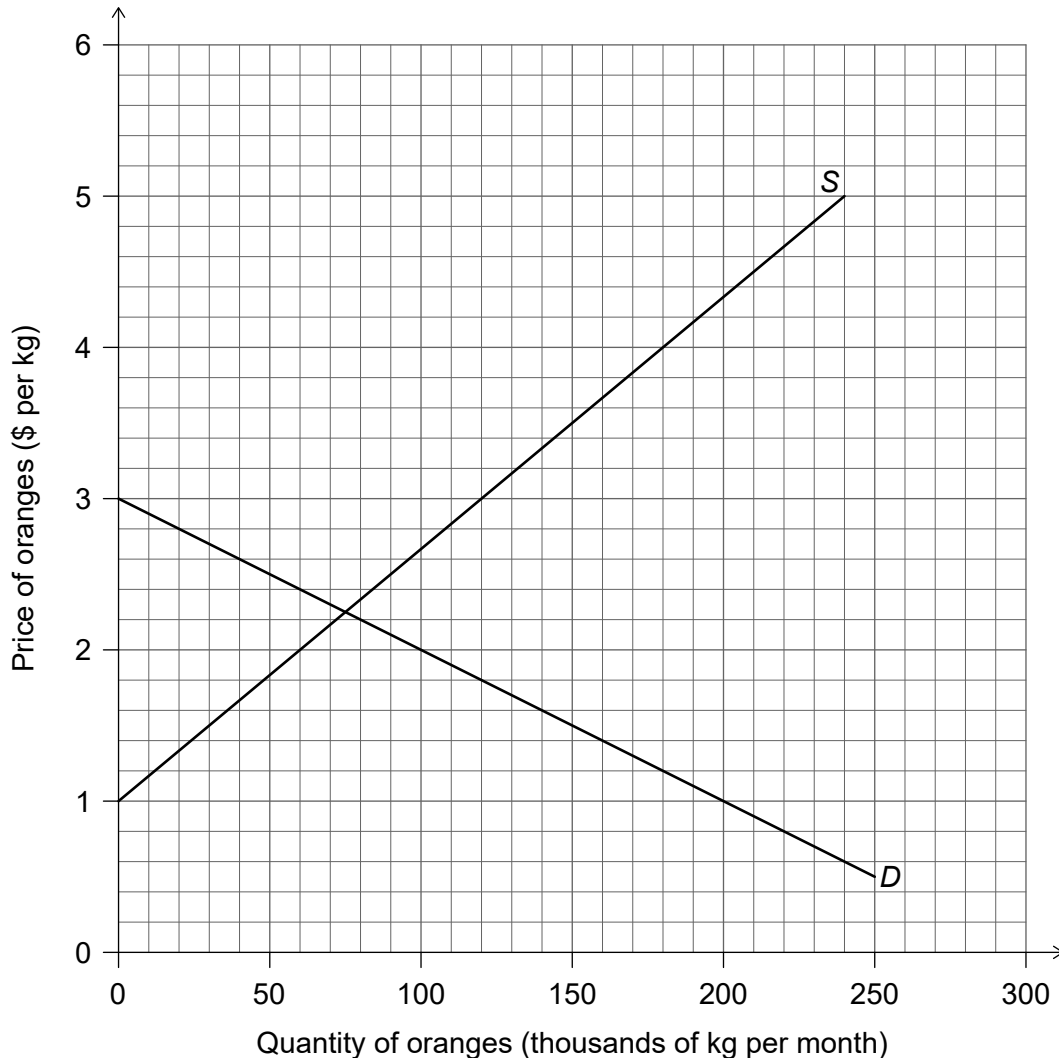
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(Question 2 continued)

The market for oranges in Country Z is illustrated on **Figure 5**.

Figure 5



The domestic demand and supply for oranges are given by the functions

$$Q_d = 300 - 100P$$

$$Q_s = -60 + 60P$$

where P is the price of oranges in dollars per kilogram (\$ per kg), Q_d is the quantity of oranges demanded (thousands of kg per month) and Q_s is the quantity of oranges supplied (thousands of kg per month). The world price of oranges is \$2 per kg.

Due to increased awareness of the possible health benefits of vitamin C, the demand for oranges in Country Z increases by 60 000 per month at each price.

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(Question 2 continued)

(d) Calculate the change in expenditure on imported oranges as a result of the increase in demand. [2]

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(e) (i) Calculate the change in consumer surplus in Country Z as a result of the increase in demand for oranges. [2]

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(ii) Calculate the change in social (community) surplus as a result of the increase in demand for oranges. [2]

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(f) State **one** administrative barrier that Country Z could use in order to restrict imports. [1]

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(Question 2 continued)

Tanya is a currency speculator. She buys and sells currencies with the intention of making gains as a result of changes in the exchange values of currencies. Currently, she is holding US\$300 000, but she expects that in the next few months the euro (EU€) (the currency of the eurozone) will appreciate against the US dollar (US\$).

At present, EU€1 = US\$1.20.

- (g) Explain **two** possible economic consequences for the eurozone if the euro appreciates. [4]

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Tanya exchanges her US\$ for EU€.

- (h) Calculate the quantity of EU€ she will receive for her US\$300 000. [1]

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The EU€ depreciates by 10% against the US\$. Fearing further depreciation of the EU€, Tanya exchanges her EU€ for US\$.

- (i) Calculate, in US\$, the loss made by Tanya as a result of these transactions. [3]

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(Question 2 continued)

- (j) Explain **two** reasons why a government might prefer a floating exchange rate system for its currency.

[4]

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3. **Table 1** provides information about Fairland.

Table 1

Population of working age (million)	Population of working age that is either employed or unemployed (%)	Employed (million)
231	62	105

(a) Calculate the unemployment rate in Fairland using **Table 1**. [2]

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(b) Outline **two** difficulties in measuring unemployment. [4]

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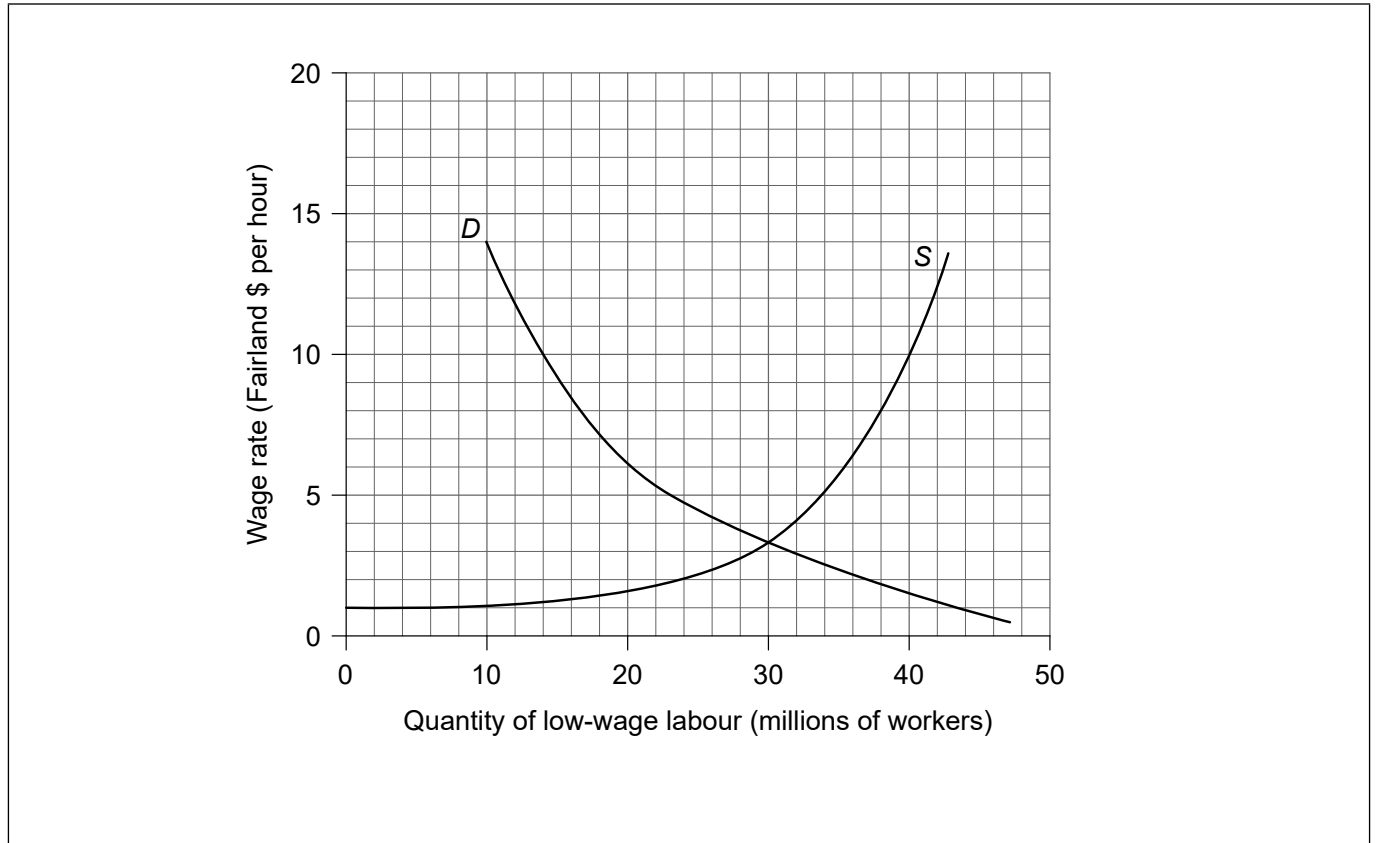
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(Question 3 continued)

Figure 6 illustrates Fairland's demand (*D*) for and supply (*S*) of low-wage labour.

Figure 6



In order to raise the living standards of low-wage workers, the government of Fairland has decided to impose a minimum wage of \$10 per hour.

- (c) Draw and label a curve that illustrates Fairland's minimum wage on **Figure 6**. [1]
- (d) Calculate the resulting unemployment among the low-wage workers. [2]

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(Question 3 continued)

The marginal rates of income tax in Fairland are given in **Table 2**.

Table 2

Income (\$ per year)	Rate of income tax
1 – 10 000	5%
10 001 – 18 000	10%
18 001 – 30 000	20%
30 001 and over	30%

(e) (i) Define the term *marginal rate of tax*.

[2]

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Fred is a low-wage worker in Fairland. As a result of the minimum wage his income will increase from \$15 000 per year to \$19 000 per year.

(ii) Calculate how much additional income tax Fred will need to pay.

[2]

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(Question 3 continued)

- (f) Using an AD/AS diagram to support your answer, explain the mechanism through which monetary policy can help an economy reduce the level of unemployment.

[4]

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- (g) State **two** interventionist supply-side policies that are likely to increase the demand for low-wage labour in Fairland.

[2]

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(Question 3 continued)

- (h) State **two** market-based supply-side policies that are likely to increase the supply of labour in Fairland. [2]

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Government economists have estimated that citizens of Fairland spend 10% of any additional income on imported goods and pay a tax rate of 20% on every extra dollar of income. The marginal propensity to save for Fairland's citizens is 10%.

- (i) Using this information, calculate the value of the Keynesian multiplier. [2]

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- (j) Using your answer to part (i), calculate the increase in government spending necessary to increase nominal GDP by \$100 billion. [2]

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