

Please write clearly in block capitals.

Centre number

Candidate number

Surname StemUp Model Solution

Forename(s) _____

Candidate signature _____

I declare this is my own work.

INTERNATIONAL AS ECONOMICS

Unit 1 The Operation of Markets, Market Failure and the Role of Government

Friday 6 January 2023

07:00 GMT

Time allowed: 1 hour 45 minutes

Materials

For this paper you must have:

- the Source Booklet, provided as an insert (enclosed)
- a calculator, which you are expected to use where appropriate.

Instructions

- Use black ink or black ball-point pen. Pencil should only be used for drawing.
- Fill in the boxes at the top of this page.
- Answer **all** questions.
- You must answer the questions in the spaces provided. Do **not** write outside the box around each page or on blank pages.
- Do **not** write in the Source Booklet.
- If you need extra space for your answer(s), use the lined pages at the end of this book. Write the question number against your answer(s).
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- The maximum mark for this paper is 80.
- You may use a bilingual dictionary for this exam.
- You may **not** use an English dictionary.

For Examiner's Use	
Question	Mark
1–15	
16	
17	
18	
19	
20	
21	
TOTAL	



Section A

Answer **all** questions in the spaces provided.

Only **one** answer per question is allowed.

For each question completely fill in the circle alongside the appropriate answer.

CORRECT METHOD



WRONG METHODS



If you want to change your answer you must cross out your original answer as shown.



If you wish to return to an answer previously crossed out, ring the answer you now wish to select as shown.



0 1

Which one of the following is an advantage of a centrally planned economy?

[1 mark]

A Firms make large losses.

☐

B Lower levels of income inequality can be achieved.

☒

C Resources are allocated by the price mechanism.

☐

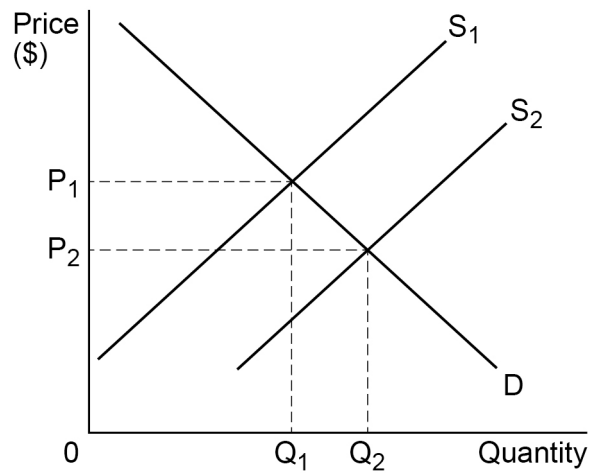
D Workers can choose the jobs they want to do.

☐


0 2

Figure 1 shows the original market demand (D) and supply (S_1) curves for cocoa.

Figure 1



Which one of the following is most likely to cause the supply curve for cocoa to shift from S_1 to S_2 ?

[1 mark]

- A** A cut in the subsidy paid to cocoa producers.
- B** A poor cocoa harvest due to very little rain.
- C** Some cocoa farmers switching to more profitable crops.
- D** The government removing the indirect tax on cocoa.

☐
☐
☐
☒

Turn over for the next question

Turn over ►



0 3

Table 1 shows the annual total revenue for an online retailer in 2020, and the average number of customers the firm had each month.

Table 1

Annual total revenue (2020)	Average number of customers per month
\$386 billion	460 million

In 2020, what was the online retailer's average revenue for one customer per month, to the nearest dollar?

[1 mark]**A** \$10☐**B** \$70☒**C** \$84☐**D** \$839☐

0 4

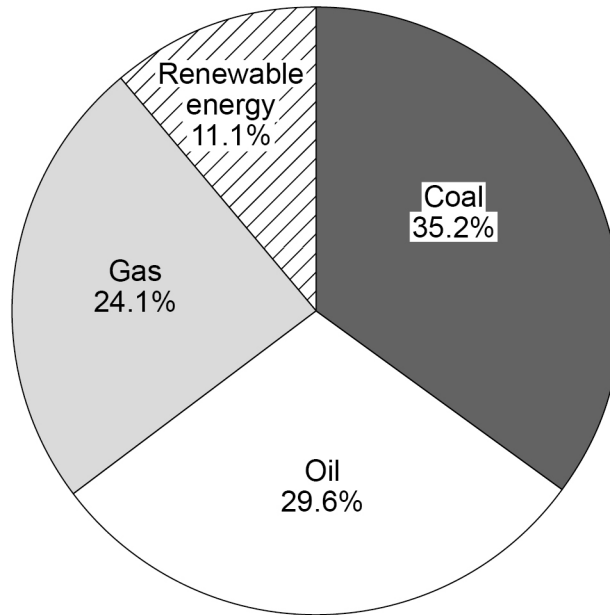
In the short run, the supply of land is fixed. Therefore, in the short run, the price elasticity of supply of land is

[1 mark]**A** equal to 1☐**B** greater than 1☐**C** perfectly elastic.☐**D** perfectly inelastic.☒

0 5

Figure 2 shows the different sources of energy produced in a country in 2020.

Figure 2



Which one of the following can be concluded from **Figure 2**?

[1 mark]

- A** Non-renewable energy sources were less than 70% of total energy production. ☐
- B** Non-renewable energy sources were more than 85% of total energy production. ☒
- C** Renewable energy sources were less than one tenth of total energy production. ☐
- D** The demand and supply of renewable energy are increasing each year. ☐

Turn over for the next question

Turn over ►



0 6

Figure 3 and **Figure 4** below show a change in the demand (D_1 to D_2) for **Good X** and the change this causes in the supply (S_1 to S_2) of **Good Y**.

Figure 3
Good X

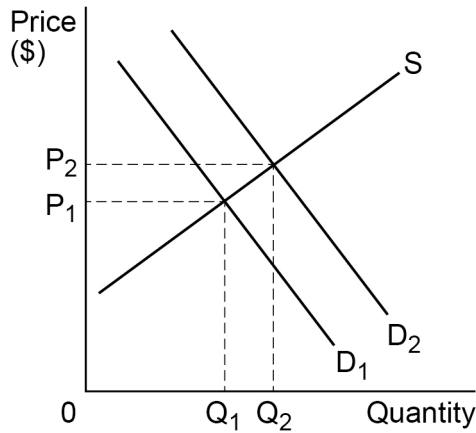
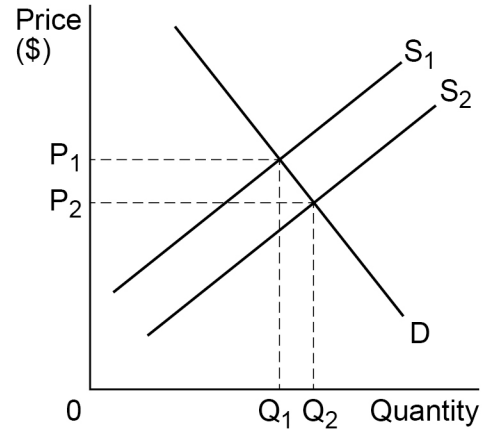


Figure 4
Good Y



Which one of the following relationships is illustrated by the diagrams?

[1 mark]

A Competitive demand

☐

B Composite demand

☐

C Derived demand

☐

D Joint supply

☒

0 7

Which one of the following is an example of an internal economy of scale?

[1 mark]

A A college offers training courses for local firms.

☐

B Banks offer cheaper loans to larger firms.

☒

C Suppliers set up near a growing industry.

☐

D The government increases spending on new infrastructure.

☐


0 8

Which one of the following is the most likely cause of excess supply in a market?

The government setting

[1 mark]**A** a maximum price above the equilibrium price.☐**B** a maximum price below the equilibrium price.☐**C** a minimum price above the equilibrium price.☒**D** a minimum price below the equilibrium price.☐**0 9**

Research finds that the cross elasticity of demand for electric cars with respect to the price of petrol cars is +0.36.

Which one of the following can be concluded from the data?

[1 mark]**A** A 10% decrease in the price of electric cars will lead to a 3.6% decrease in the demand for petrol cars.☐**B** A 10% decrease in the price of electric cars will lead to a 36% decrease in the demand for petrol cars.☐**C** A 10% increase in the price of petrol cars will lead to a 3.6% increase in the demand for electric cars.☒**D** A 10% increase in the price of petrol cars will lead to a 36% increase in the demand for electric cars.☐**1 0**In Economics, one difference between the short run and the long run is that in the long run **[1 mark]****A** all factors of production are variable.☒**B** fixed costs do not change with output.☐**C** labour cannot be replaced by capital.☐**D** some factors of production are fixed.☐**Turn over ►**

1 1

The Indian government operates a buffer stock scheme for onions. There is a shortage of onions in the country due to bad weather.

Which one of the following is most likely to stop the price of onions rising?

The government

[1 mark]

A banning the sale of onions imported from abroad.

☐

B buying up supplies of onions from farmers.

☐

C reducing the minimum price it pays to onion farmers.

☐

D releasing onions onto the market.

☒
1 2

Which one of the following combinations gives the characteristics of a public good?

[1 mark]

A	Excludable	Non-rival in consumption	☐
B	Excludable	Rival in consumption	☐
C	Non-excludable	Non-rival in consumption	☒
D	Non-excludable	Rival in consumption	☐

1 3

A firm making smartphones made a profit of \$40bn in 2021. The firm's profit was 20% of its total revenue and it spent \$5bn on research and development (R&D).

Which one of the following combinations is correct?

[1 mark]

	Total revenue	Spending on R&D as a percentage of profit	
A	\$8bn	25.0%	☐
B	\$80bn	12.5%	☐
C	\$160bn	25.0%	☐
D	\$200bn	12.5%	☒



1 4

The price elasticity of demand for a firm's product is inelastic. If the firm increases the price of its products, what will happen to its average revenue, total revenue and profit?

[1 mark]

	Average revenue	Total revenue	Profit	
A	Decrease	Decrease	Decrease	☐
B	Decrease	Increase	Increase	☐
C	Increase	Decrease	Decrease	☐
D	Increase	Increase	Increase	☒

1 5

Which one of the following is most likely to cause the production possibility boundary (PPB) of an economy to shift to the right?

[1 mark]

- A** An increase in the capital stock ☒
- B** Factories and farmland destroyed by a natural disaster ☐
- C** More demand for goods and services ☐
- D** Unemployment falling ☐

15

Turn over for Section B

Turn over ►



Section B

Look at the Source Booklet and answer **all** questions in the spaces provided.

Do **not** write in the Source Booklet.

1 6 . 1 Define 'opportunity cost' (**Extract B**, line 17).

[3 marks]

Opportunity cost is the next best alternative forgone when an economic decision is made. Because resources are scarce, choosing one option means sacrificing the benefits of the next best choice, for example a consumer who spends money on fast food gives up the fruit they could otherwise have bought.

1 6 . 2 Define 'product differentiation' (**Extract B**, line 14).

[3 marks]

Product differentiation is the process by which a firm distinguishes its good or service from those of rival firms serving the same market, so that it appears different, for example through branding, advertising, packaging, design or quality. It aims to increase demand and make demand less price elastic.



1 7**Extract B** contains data on the fast food industry.

You are advised to show your working for the calculations below.

1 7 . 1**Extract B** (lines 20–22) states: 'It is predicted that total revenue from the sale of fast food in South Africa will increase to around \$4.9 billion by 2026. This would account for 0.5% of the global revenue for the fast food industry.'

Calculate the predicted global revenue for the fast food industry in 2026.

[3 marks]

$$\$4.9\text{bn} = 0.5\% \text{ of global revenue}$$

$$\text{Global revenue} = (4.9 \div 0.5) \times 100 = 9.8 \times 100$$

$$= \$980\text{bn (predicted global fast food revenue in 2026)}$$

1 7 . 2**Extract B** (lines 12–13) states: 'Throughout the world, in this market in 2020, there were 830 400 businesses employing 13 114 000 people.'Calculate the mean number of people employed in each business in 2020. Give your answer to the **nearest whole number**.**[3 marks]**

$$\text{Mean} = \text{total employed} \div \text{number of businesses}$$

$$= 13\,114\,000 \div 830\,400 = 15.79$$

$$= 16 \text{ people per business (to the nearest whole number)}$$



1 8

Extract B (line 1) states: 'It is often assumed that food, including healthy food such as fruit, is a normal good'.

1 8 . 1

Explain how changes in income are likely to affect the demand for fruit.

[6 marks]

Income is the flow of money received by households, for example from wages. A normal good is one for which demand rises when income rises, so its income elasticity of demand (YED) is positive; an inferior good has a negative YED, so its demand falls as income rises.

If fruit is a normal good, a rise in incomes means households can afford to buy more fruit and gain more satisfaction from a healthier diet, so the demand curve for fruit shifts to the right and more is bought at every price. A fall in income shifts demand to the left.

However, the effect may be small. Fruit is a relatively cheap necessity and there is a limit to how much fruit people can eat, so YED is likely to be between 0 and 1: as incomes rise, consumers spend proportionately more on other products.

For some cheap fruits demand may even fall as incomes rise, as consumers switch to more exotic, expensive fruits or to restaurant meals, so those fruits behave as inferior goods while demand for others rises.



1 8 . 2

To what extent do the data suggest that income affects the demand for fruit in South Africa?

Use the data in **Extract A** to support your answer.

[6 marks]

There is some evidence of a direct relationship. When income per person rose from US\$6351 in 2008 to US\$8811 in 2011, fruit consumption rose from 36.20 kg to 38.61 kg per person, and when income fell from US\$8811 in 2011 to US\$6691 in 2017, consumption fell to 21.54 kg, suggesting fruit is a normal good.

However, between 2005 and 2008 income rose from US\$6033 to US\$6351 but consumption fell from 36.45 kg to 36.20 kg. Income was higher in 2017 than in 2005, yet consumption was much lower (21.54 kg against 36.45 kg). The sizes also differ: from 2011 to 2014 income fell by 21% and consumption by 22%, but from 2014 to 2017 income fell only 4% while consumption fell 29%.

Other factors, such as the price of fruit, substitutes and tastes, may matter more, there may be time lags, and data are only given every three years. Overall, income has some effect on the demand for fruit in South Africa, but it is not the only factor and the relationship is weak.

12

Turn over for the next question

Turn over ►



1 9

Extract C (lines 6–7) states: ‘Some argue that healthy food is a merit good and will be underconsumed if left to the free market.’

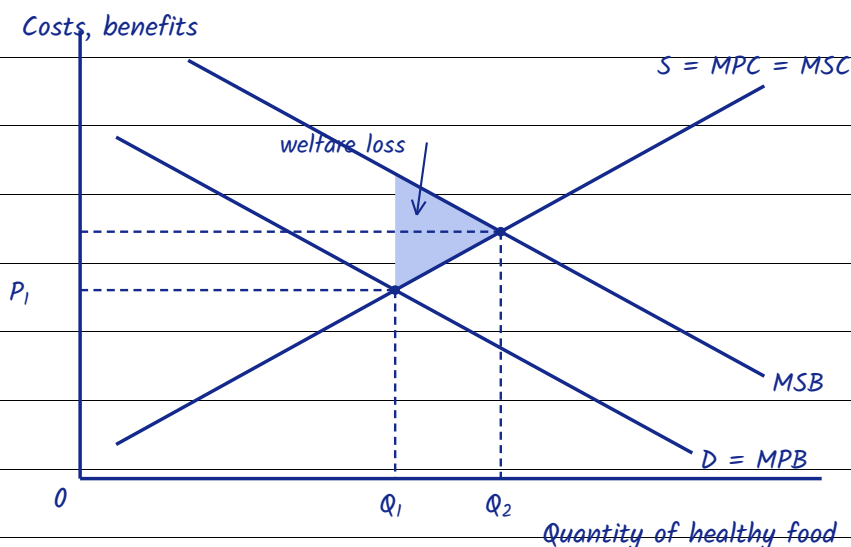
With the help of a diagram, explain why healthy food is likely to be underconsumed if left to the free market.

[9 marks]

A merit good is a good that is more beneficial to consumers and society than people realise, such as healthy food, so in a free market, where only private costs and benefits are considered, it is underconsumed: less is consumed than the socially optimal level.

Consumers of healthy food gain private benefits, such as enjoyment and better health.

There are also external benefits to third parties: a healthier population means fewer cases of obesity and diabetes, lower public healthcare costs and more productive workers. Social benefit is private benefit plus external benefit, so the marginal social benefit (MSB) curve lies above the marginal private benefit (MPB) curve.



Extra space In the diagram, the free market equilibrium is at Q_1 , where demand (MPB) equals supply ($MPC = MSC$), because consumers ignore the external benefits. The socially optimal output is Q_2 , where $MSB = MSC$. Since $Q_1 < Q_2$, healthy food is underconsumed and the shaded welfare loss arises, as units between Q_1 and Q_2 have a social benefit greater than their cost.



Underconsumption is made worse by information failure. Consumers often underestimate the long-term benefits of healthy food because they focus on the present, and lack knowledge about nutrition, so private demand is lower than it would be with full information. Healthy food can also be expensive and less convenient than fast food, so the free market allocates too few resources to it.

9

2 0

Extract B (line 9) states: 'There are many reasons why the demand for fast food has increased.'

Analyse possible causes of the increase in the demand for fast food.

[12 marks]

Fast food is food that is prepared and served quickly, such as burgers and fried chicken, usually sold by chains through restaurants, takeaways and delivery apps.

Demand is the quantity consumers are willing and able to buy at each price. An increase in demand means the demand curve shifts to the right, so more is bought at every price, raising equilibrium price and quantity. Several causes are likely.

First, rising incomes. As incomes grow, especially in emerging economies such as South Africa, households can afford to eat out more often. Fast food is likely to be a normal good with a positive income elasticity of demand, possibly above 1 in lower-income countries where eating out is seen as a luxury. A rise in income therefore shifts demand to the right. In richer countries YED may be lower, or fast food may even be an inferior good as consumers switch to restaurants, so this cause matters most where incomes are rising from a low level.

Second, changes in tastes, preferences and lifestyles. More people, particularly women, now work full-time and have long commutes, so they value convenience and have less time to cook. The opportunity cost of time spent preparing meals has risen, making

Turn over ►



fast food relatively more attractive. Growth of delivery apps has increased convenience further, so demand increases. Social norms have also changed, with eating out becoming normal for young people.

Third, advertising and branding. Large chains spend heavily on advertising and use product differentiation, such as brands, menus and loyalty schemes, to make consumers prefer their products. This shifts demand to the right and makes it less price elastic. Information failure adds to this: consumers may underestimate the health risks of fast food, so they demand more than they would with full information.

Fourth, availability and choice. The opening of many new outlets, with 830 400

Extra space businesses in the market worldwide in 2020 (Extract B), means fast food is easier to access. Urbanisation means more people live close to fast food shops.

Population growth, and a younger age structure in many developing countries, increases the number of consumers who buy fast food most often.

Fifth, price factors. Fast food is relatively cheap, as large chains gain economies of scale, so its price compared with substitutes such as healthy food or restaurant meals is low. A fall in the price of fast food causes a movement along the demand curve, while a rise in the price of substitutes, such as fresh fruit and vegetables, increases demand for fast food, as the cross elasticity of demand is positive. The size of this effect depends on how close the substitutes are: the higher the positive XED, the larger the increase in demand. If the demand for fast food is price elastic, price cuts by firms will cause large increases in the quantity demanded.

Overall, the increase in demand has many causes that reinforce each other. Rising incomes and changing lifestyles are probably the most important in developing economies, while advertising and convenience strengthen consumers' preferences for fast food everywhere.



2 1

Extract C (lines 7–8) states: ‘government policies might be needed to encourage households to consume more healthy food.’

Use the extracts and your knowledge of economics to assess policies that governments could use to increase the consumption of healthy food.

[20 marks]

Healthy food, such as fruit and vegetables, is a merit good: it provides external benefits, such as lower healthcare costs and a more productive workforce, and consumers underestimate its private benefits because of information failure. Unhealthy food is a demerit good with negative externalities. In a free market healthy food is therefore underconsumed, so governments may intervene to correct this market failure.

One policy is to subsidise healthy food. A subsidy paid to producers per unit reduces their costs, so supply shifts to the right from S_1 to S_2 , as in the diagram, lowering price from P_1 to P_2 and raising consumption from Q_1 towards the social optimum Q_2 . It also makes healthy food more affordable for low-income households, improving equity. However, its effectiveness depends on the price elasticity of demand. The extracts suggest the demand for healthy food may be price inelastic, so a subsidy would mostly reduce prices with only a small rise in consumption, and many consumers who already buy healthy food would gain. It also depends on the size of the subsidy: a large subsidy has a high opportunity cost, as the money could be used for healthcare or education, and producers may not pass the full subsidy on in lower prices.

A second policy is an indirect tax on unhealthy food, such as a sugar tax. This raises the price of unhealthy food, shifting its supply to the left, and as healthy food is a substitute, demand for healthy food shifts to the right. The tax makes consumers pay for the external costs and raises revenue that can be used to subsidise healthy food or school meals, so the two policies can work together. However, if demand for unhealthy food is price inelastic, as it is habit-forming and has few close substitutes, consumption falls only a little. Such taxes are also regressive, as poorer households spend a larger share of income on food, so they may worsen inequality, and if the tax

Turn over ►



is too high it may encourage illegal or cross-border sales.

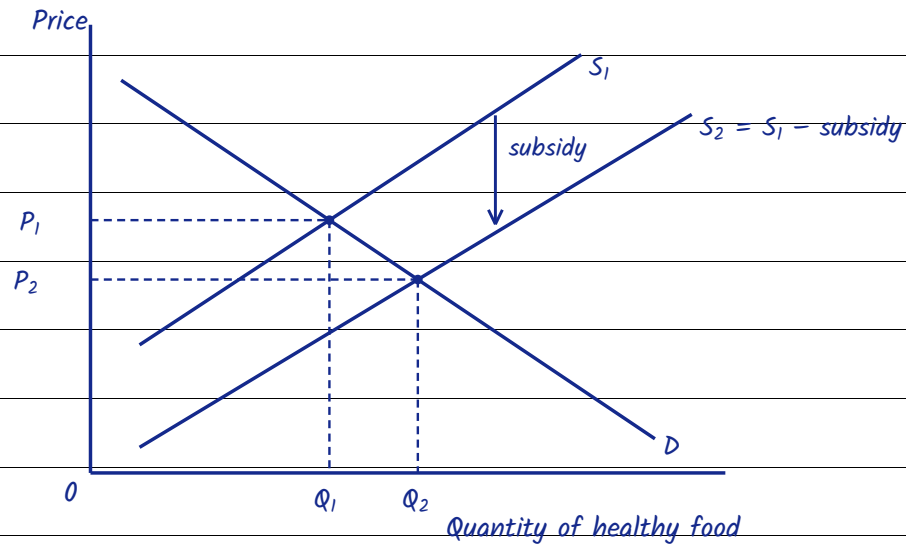
A third policy is to regulate. Governments can ban or restrict the advertising and marketing of unhealthy food, especially to children, reducing the demand for fast food and so increasing demand for healthy alternatives. They can ban unhealthy food in schools, limit new fast food outlets near schools, or require firms to reduce sugar and salt. Regulation is cheap to the government and can be effective, but it requires enforcement, restricts consumer choice and reduces firms' revenue and profits, which may lead to job losses.

A fourth policy is to provide information. Clear food labelling, such as traffic light labels, and education in schools about nutrition reduce information asymmetry, so consumers' private demand moves closer to the MSB. This tackles the cause of underconsumption, but its effect is slow and uncertain, as many consumers ignore labels and habits are hard to change. Governments could also supply healthy food directly, for example free fruit or school meals for children from low-income families.

The best policy depends on several factors. Access is an important issue: in some countries, and for poorer households, healthy food is simply unavailable or too expensive, as the fall in fruit consumption in South Africa when incomes fell suggests (Extract
Extra space A). Here subsidies or direct provision are needed, as labelling will achieve little. It also depends on each country's priorities and budget: a developing country may not be able to afford large subsidies. There is a risk of government failure: governments lack information on the size of the external benefits, so they may set the wrong subsidy or tax, and there may be unintended consequences such as food waste, black markets or higher prices for low-income families. Finally, value judgements matter, as some see such policies as a 'nanny state' restricting freedom of choice.

In conclusion, no single policy is enough. A combination works best: a tax on unhealthy food, with its revenue used to subsidise healthy food for low-income households, alongside advertising restrictions and education to reduce information failure. Because





demand is likely to be price inelastic in the short run, price policies alone have a limited effect, so education and better access are vital for long-run change, but the precise mix must reflect each country's income levels, access to healthy food and the opportunity cost of government spending.

END OF QUESTIONS



There are no questions printed on this page

*Do not write
outside the
box*

**DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED**



*Do not write
outside the
box*

[illegible]

There are no questions printed on this page

*Do not write
outside the
box*

**DO NOT WRITE ON THIS PAGE
ANSWER IN THE SPACES PROVIDED**

Copyright information

For confidentiality purposes, all acknowledgements of third-party copyright material are published in a separate booklet. This booklet is published after each live examination series and is available for free download from www.oxfordaqaexams.org.uk.

Permission to reproduce all copyright material has been applied for. In some cases, efforts to contact copyright-holders may have been unsuccessful and Oxford International AQA Examinations will be happy to rectify any omissions of acknowledgements. If you have any queries please contact the Copyright Team.

Copyright © 2023 Oxford International AQA Examinations and its licensors. All rights reserved.



2 4



2 3 1 X E C 0 1