

AS ECONOMICS

Paper 1 The Operation of Markets and Market Failure

Insert

DO NOT WRITE ANY ANSWERS IN THIS INSERT. YOU MUST ANSWER THE QUESTIONS IN THE ANSWER BOOKLET PROVIDED.

CONTEXT 1: OIL

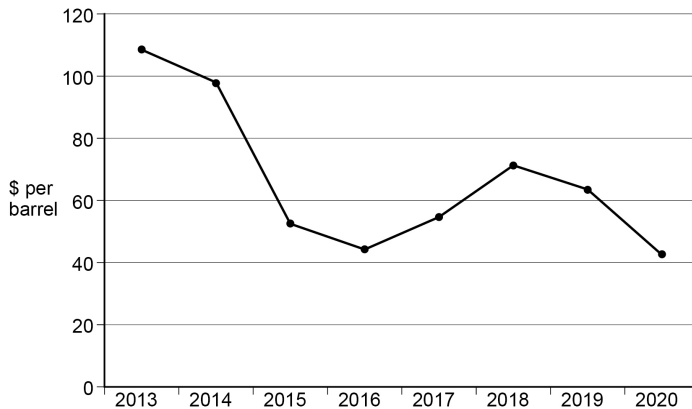
Questions 21 to 26

- **Extract A:** Brent crude oil prices, 2013–2020 and market shares of leading oil producers, 2019
- **Extract B:** The market for oil
- **Extract C:** Failures in the oil market

CONTEXT 2: DRONES

Questions 27 to 32

- **Extract D:** Annual worldwide sales of commercial drones, 2016–2023 and near misses between drones and planes in the UK, 2014–2018
- **Extract E:** The rise of the drone
- **Extract F:** Opportunity or threat?

Context 1**Total for this context: 50 marks****OIL****Extract A: Brent crude oil prices, 2013–2020 and market shares of leading oil producers, 2019****(i) Brent crude oil prices (\$ per barrel), 2013–2020**

Note: Oil prices are the average price for the 12 months of each year.

(ii) Market shares of leading oil producers (%), 2019

Country/group	Market share (%)
Canada	5.9
OPEC	37.4
Russia	12.1
United States	17.9
Others	26.7

Source: World Bank and bp Statistical Review of World Energy 2020

Extract B: The market for oil

Crude oil, a fossil fuel, is a non-renewable resource which plays a vital role in modern economies. Oil is used to make petrol and diesel for cars, planes and machinery. It is also used to make electricity, fertiliser and plastics.

Since the start of 2013, the average monthly price of Brent crude (one of two key oil prices) has varied from \$116.52 in February 2013 to \$23.34 in April 2020. Income and price elasticity of demand for oil are fairly inelastic, particularly in more developed economies. The supply of oil is also inelastic. Like other primary products, the price of oil fluctuates in response to changes in both demand and supply. For example, as more countries industrialise, incomes increase. This causes demand for oil to rise, although it falls during recessions. Oil supplies are sometimes disrupted for political reasons, which also contributes to the large price fluctuations.

5

10

As a natural resource, crude oil is only found in certain locations. In 1960, the Organization of the Petroleum Exporting Countries (OPEC) was set up by five leading oil-producing countries, led by the largest producer, Saudi Arabia. OPEC's aim is to 'coordinate and unify the petroleum policies of its member countries and ensure the stabilisation of oil markets'. It currently has 13 members, accounting for about 40% of oil production and 80% of the world's viable oil reserves. At times, it has used its monopoly power to influence the supply of oil and therefore its price.

15

Source: News reports, December 2020

Extract C: Failures in the oil market

Oil is a finite resource and substitutes will eventually be needed. Technological improvements have made it possible to obtain oil from new locations, adding to supplies. However, oil exploration and extraction are expensive and oil prices need to be high and stable to encourage new ventures. The recent fall in demand and price has led to a surplus of oil and the postponement of several projects. Oil companies and oil-exporting countries are the main losers. In April 2020, OPEC announced cuts in production extending to 2022, to achieve a 'secure supply to consumers, and a fair return on invested capital'.

5

Although oil is very important for both consumers and producers, there are environmental concerns, with many governments using tax and regulation to reduce demand. Oil can pollute the air, water and soil and is viewed as a significant contributor to greenhouse gas emissions and global warming. The Paris Agreement of 2015 set a limit for global warming of 'well below 2 °C'. By early 2020, 195 countries had signed the agreement.

10

Concerns about the impact of oil on the environment have led to the encouragement of renewable energy, such as solar, wind and tidal power, often using subsidies. However, some countries find it easier to generate power by greener methods than others. Technical progress has cut the cost of renewable sources but when oil prices fell recently, it made them less competitive again. In 2019, the share of renewables in global electricity production rose to 10.4%. The use of electric cars is also increasing but some uses of oil still lack viable substitutes.

15

Unstable prices, monopoly power, environmental concerns and a vital resource – should governments intervene more in the oil industry?

20

Source: News reports, December 2020

Turn over for Context 1 questions**Turn over ►**

Context 1 – Questions 21 to 26

- | | |
|---|---|
| 2 | 1 |
|---|---|

 Define 'price elasticity of demand' **Extract B** (lines 5–6). **[3 marks]**
- | | |
|---|---|
| 2 | 2 |
|---|---|

Extract B (lines 4–5) states: 'the average monthly price of Brent crude (one of two key oil prices) has varied from \$116.52 in February 2013 to \$23.34 in April 2020'.
- Calculate the oil price index for April 2020, if February 2013 is taken to be the starting point (base year) of the oil price index. Give your answer to the **nearest whole number**. **[4 marks]**
- | | |
|---|---|
| 2 | 3 |
|---|---|

 Use **Extract A (i)** to identify **two** significant features of the price of Brent crude oil over the period shown. **[4 marks]**
- | | |
|---|---|
| 2 | 4 |
|---|---|

 Use the data in **Extract A (ii)** to complete the pie chart to show the market shares of each of the following oil producers in 2019: Canada, OPEC, Russia, the United States and Others. **[4 marks]**
- | | |
|---|---|
| 2 | 5 |
|---|---|

Extract C (lines 13–14) states: 'Concerns about the impact of oil on the environment have led to the encouragement of renewable energy, such as solar, wind and tidal power'.
- Explain how the development of renewable sources of energy is likely to affect the market for oil. **[10 marks]**
- | | |
|---|---|
| 2 | 6 |
|---|---|

Extract C (lines 20–21) states: 'Unstable prices, monopoly power, environmental concerns and a vital resource – should governments intervene more in the oil industry?'
- Use the extracts and your knowledge of economics to evaluate ways in which governments could deal with the market failures in the oil industry. **[25 marks]**

There are no extracts printed on this page

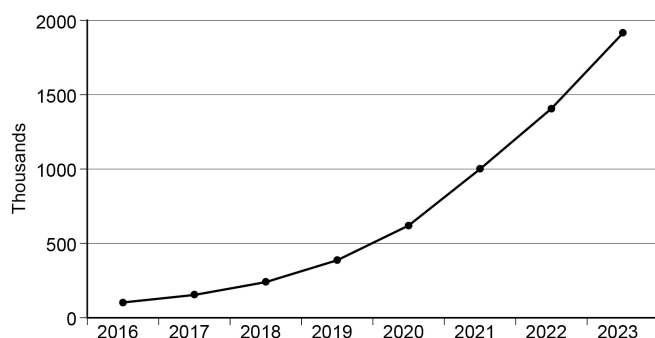
Turn over for Context 2

Turn over ►

Context 2

Total for this context: 50 marks

DRONES

Extract D: Annual worldwide sales of commercial drones, 2016–2023 and near misses between drones and planes in the UK, 2014–2018**(i) Annual worldwide sales of commercial drones, actual and projected, 2016–2023****(ii) Near misses between drones and planes in the UK, 2014–2018**

Year	Near misses
2014	9
2015	29
2016	71
2017	93
2018	125

Source: Statista.com

Extract E: The rise of the drone

A drone or unmanned aerial vehicle (UAV) is a small flying device with no pilot on board but controlled by a computer or smartphone app. It usually carries a camera to take pictures or videos from the air. The use of drones has increased considerably over the last 15 years and is predicted to grow rapidly as technological developments enable them to be used for a wider variety of purposes.

5

The current civilian drones have benefited from considerable research and development over time for their use in military operations. They are now widely used by businesses and for leisure purposes, as well as by governments. Drones can reach remote areas quickly and easily, saving on labour and other costs. Their uses include: in agriculture, to manage crops and animals; in construction, for inspecting buildings and infrastructure; for weather predictions; and to help deal with natural or other disasters.

10

Drones are increasingly being used to deliver goods. For example, Amazon has been experimenting with using drones to deliver packages over short distances.

Source: News reports, December 2020

Extract F: Opportunity or threat?

Although there is the initial cost of the equipment, drones increase productivity. This reduces the need for other factors of production, and so reduces total costs. Drones therefore help firms gain a competitive advantage, adding to profits.

Drones can also help humanitarian organisations carry out their work more effectively. One important application is healthcare. In 2016, Rwanda became the first country to use drones to deliver blood and medical supplies to remote areas. In the next three years, more than 10 000 packages were delivered. Drones have recently been trialled to deliver medical and other supplies to islands off the west coast of Scotland. 5

One UK firm has developed drones to carry food and water to areas suffering from war or natural disasters. The total cost of a delivery consists of £150 for the drone and another £350 to carry out the whole operation. The drone carries food weighing 110 pounds (50 kilos), enough for 50 people for a day. 10

Could drones be another example of technical progress improving the lives of many and enabling a wide variety of businesses to work more efficiently? They are, however, not without their critics. Their external costs must be considered. In December 2018, a thousand flights were cancelled when drones were seen flying near Gatwick airport. This cost the industry an estimated £50 million. With more machines in the air, the number of near misses with planes is increasing. There are also concerns about what the drones are photographing and the buzzing noise they make. 15

Regulations vary, and in some countries, drone flying is banned. In 2016, the UK Civil Aviation Authority (CAA) issued new laws and guidelines. This 'Dronecode' lays down what you can and cannot do, with operators required to take an online test for larger drones and fines for misuse. The UK laws are now in line with many other countries but if drones become more common, another review may be needed of what is best for all. 20

Source: News reports, December 2020

Turn over for Context 2 questions

Turn over ►

Context 2 – Questions 27 to 32

- 2 7** Define 'factors of production' **Extract F** (line 2). **[3 marks]**
- 2 8** **Extract F** (lines 10–12) states: 'The total cost of a delivery consists of £150 for the drone and another £350 to carry out the whole operation. The drone carries food weighing 110 pounds (50 kilos), enough for 50 people for a day.'
- Calculate the average total cost of delivering food weighing one pound. Give your answer to the **nearest penny**. **[4 marks]**
- 2 9** Use **Extract D (i)** to identify **two** significant features of the worldwide sales of commercial drones over the period shown. **[4 marks]**
- 3 0** Use the data in **Extract D (ii)** to draw a bar chart to show the number of near misses between drones and planes in the UK for the years 2014, 2016 and 2018. **[4 marks]**
- 3 1** **Extract E** (lines 8–9) states: 'Drones can reach remote areas quickly and easily, saving on labour and other costs.'
- Explain how the increasing use of drones is likely to affect the market for delivery workers. **[10 marks]**
- 3 2** **Extract F** (lines 23–24) states: 'if drones become more common, another review may be needed of what is best for all'.
- Use the extracts and your knowledge of economics to assess whether governments should encourage, discourage or do nothing more to affect the use of drones. **[25 marks]**

END OF QUESTIONS

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.aqa.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 AQA will be happy to rectify any omissions of acknowledgements. If you have any queries please contact the Copyright Team.

Copyright © 2023 AQA and its licensors. All rights reserved.



2 3 6 A 7 1 3 5 / 1



Please write clearly in block capitals.

Centre number

--	--	--	--	--

Candidate number

--	--	--	--

Surname

Forename(s)

Candidate signature

I declare this is my own work.

AS ECONOMICS

Paper 1 The Operation of Markets and Market Failure

Monday 15 May 2023

Morning

Time allowed: 1 hour 30 minutes

Materials

For this paper you must have:

- the Insert
- a calculator.

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 in **Section A**.
- Answer **either** Context 1 **or** Context 2 in **Section B**.
- You will need to refer to the Insert provided to answer **Section B**.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- 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 maximum mark for this paper is 70.
- The marks for questions are shown in brackets.
- No deductions will be made for wrong answers.

For Examiner's Use	
Section	Mark
A	
B	
TOTAL	



J U N 2 3 7 1 3 5 1 0 1

IB/M/Jun23/E10

7135/1

Section AAnswer **all** questions in this section.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 gives rise to opportunity cost?

[1 mark]**A** Alternative uses for resources☐**B** Market failures for many goods☐**C** The methodology of positive economics☐**D** The presence of externalities☐**0 2**

A bakery decides to increase the price of the bread that it sells.

Which one of the following price elasticities of demand for bread will result in the largest increase in the bakery's total revenue?

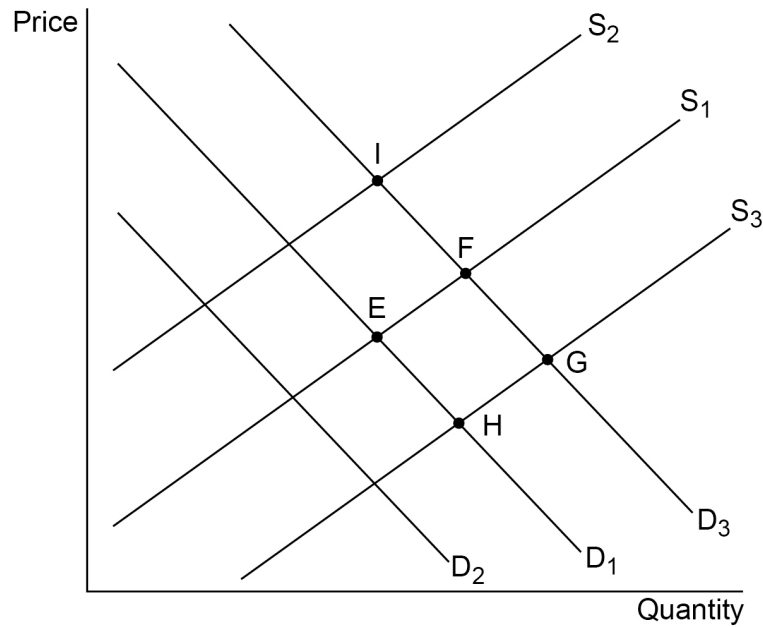
[1 mark]**A** -0.4 ☐**B** -0.8 ☐**C** -1.0 ☐**D** -2.0 ☐

0 3

Figure 1 shows the demand (**D**) and supply (**S**) curves for scooters.

Market equilibrium is initially at **E**, the intersection of **D₁** and **S₁**.

Figure 1



The government announces a cut in the indirect tax on scooters and an increase in the indirect tax on bicycles, a substitute for scooters.

Which one of the following is most likely to be the new equilibrium in the market for scooters?

[1 mark]

A F

☐

B G

☐

C H

☐

D I

☐

Turn over ►



0 4

A soap manufacturer experiences a fall in long-run average costs. This is most likely to be the result of

[1 mark]

- A** fewer external economies of scale.
- B** lower labour productivity.
- C** opportunities for internal economies of scale.
- D** total costs increasing by more than output.

☐☐☐☐**0 5**

A government decides that visitor centres in nature reserves are merit goods and therefore increases their provision.

It can be concluded that this decision

[1 mark]

- A** avoided government failure.
- B** did not have an opportunity cost.
- C** ensured provision of a public good.
- D** involved a normative judgement.

☐☐☐☐**0 6**

The median income is higher in country W than in country Z.

It can be concluded that

[1 mark]

- A** incomes are more equitably distributed in country W than in country Z.
- B** incomes are more unequally distributed in country Z than in country W.
- C** the mean income may be higher or lower in country Z compared with country W.
- D** the ratio of the highest to lowest income is greater in country W than in country Z.

☐☐☐☐

0 7

Which one of the following is a source of monopoly power?

[1 mark]

A A firm's objective of maximising profits

☐

B Advertising to establish a brand

☐

C High cross elasticity of demand

☐

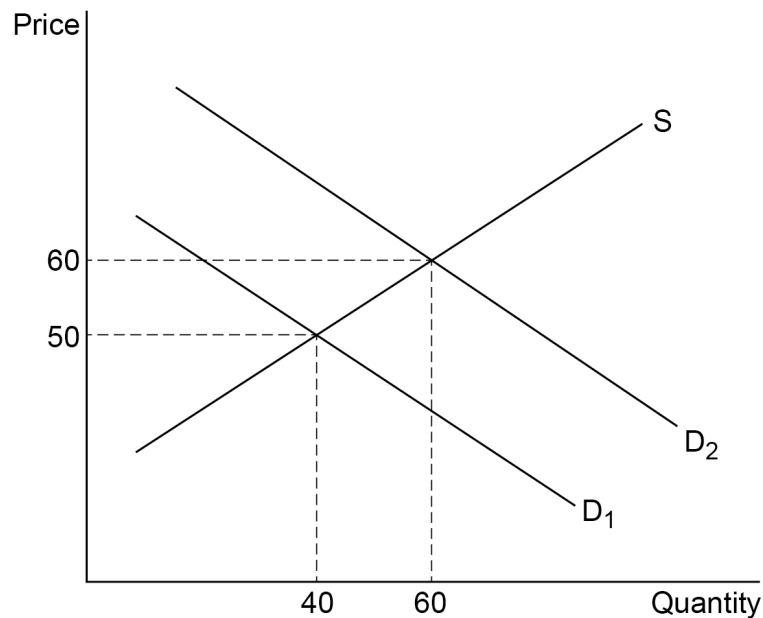
D High prices and low output

☐

0 8

Figure 2 shows the demand (**D**) and supply (**S**) curves for diamonds. An increase in demand shifts the demand curve from **D₁** to **D₂**.

Figure 2

Using **Figure 2**, which one of the following is the price elasticity of supply for diamonds?

[1 mark]

A 0.4

☐

B 0.5

☐

C 2.0

☐

D 2.5

☐

Turn over ►



0 9

One week, a business has to pay £80 interest for its loan, £95 for raw materials and £210 on rent. If the business has no other costs, what are its fixed costs for that week?

[1 mark]**A** £210☐**B** £290☐**C** £305☐**D** £385☐**1 0**

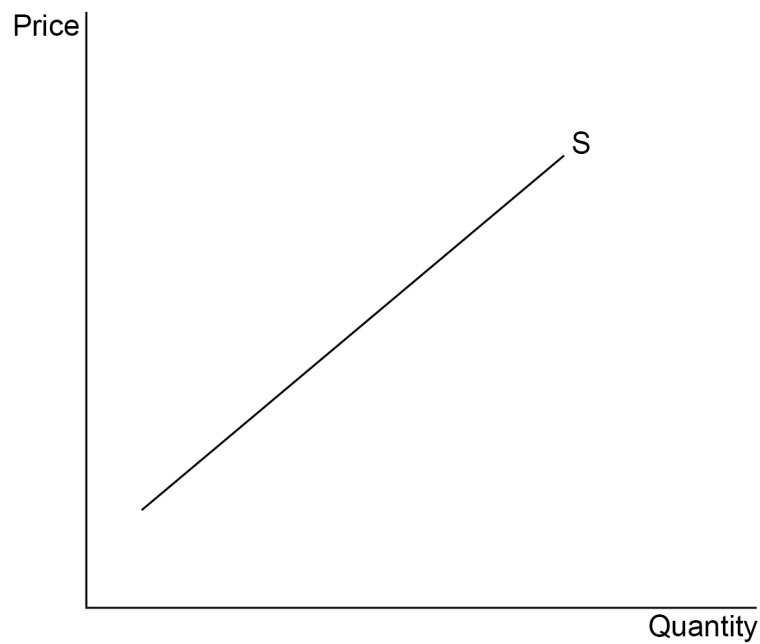
A good is in joint demand when it is

[1 mark]**A** an alternative to buying another good.☐**B** consumed by more than one person.☐**C** consumed together with another good.☐**D** demanded for two or more distinct uses.☐

1 1

Figure 3 shows a supply curve (**S**) for an industry.

Figure 3



All other things being equal, which one of the following causes the upward slope of the supply curve?

[1 mark]

- A** An increase in monopoly power at higher levels of output
- B** Firms achieving economies of scale as output increases
- C** Higher prices causing firms to improve productive efficiency
- D** Higher profits providing an incentive to increase output

☐
☐
☐
☐

Turn over for the next question

Turn over ►



1 2**Table 1** shows the market shares of supermarkets in an economy in 2020.**Table 1**

Company	% share of market
Fresh Co	35
Food Co	28
Value Co	16
Other companies	21

In 2021, **Value Co** fails to make any profits and decides to leave the market.

The most likely result is that the

[1 mark]

- A** market becomes more competitive.
- B** monopoly power of Fresh Co increases.
- C** other companies' market share rises to 37%.
- D** two-firm concentration ratio becomes 63%.

☐☐☐☐**1 3**

Hedges around fields encourage wildlife and bring widespread benefits but many farmers choose to have wire fences instead.

Which one of the following best describes the resulting failure in the market for hedges?

[1 mark]

- A** The social optimum output is greater than the free market output because the private benefit is greater than the social benefit.
- B** The social optimum output is greater than the free market output because the private benefit is less than the social benefit.
- C** The social optimum output is less than the free market output because the private benefit is greater than the social benefit.
- D** The social optimum output is less than the free market output because the private benefit is less than the social benefit.

☐☐☐☐

1 4

Which one of the following is the most likely outcome of greater division of labour in a tractor factory?

[1 mark]

- A** A reduction in labour costs
- B** Higher job satisfaction
- C** Less use of machinery
- D** More skills acquired by workers

☐☐☐☐**1 5**

A government sets a maximum price for fruit below the market price to try to encourage healthier eating.

All other things being equal, which one of the following will result in the lowest amount of excess demand for fruit at the maximum price?

[1 mark]

- A** Demand is income elastic and supply is price elastic.
- B** Demand is income inelastic and supply is price inelastic.
- C** Demand is price elastic and supply is price elastic.
- D** Demand is price inelastic and supply is price inelastic.

☐☐☐☐**1 6**

Healthcare in the UK is provided by the public sector and by private firms. Public sector provision ensures that healthcare is free at the point of consumption for individuals without private health insurance and for those unable to pay for healthcare.

Which one of the following can be concluded about healthcare in the UK?

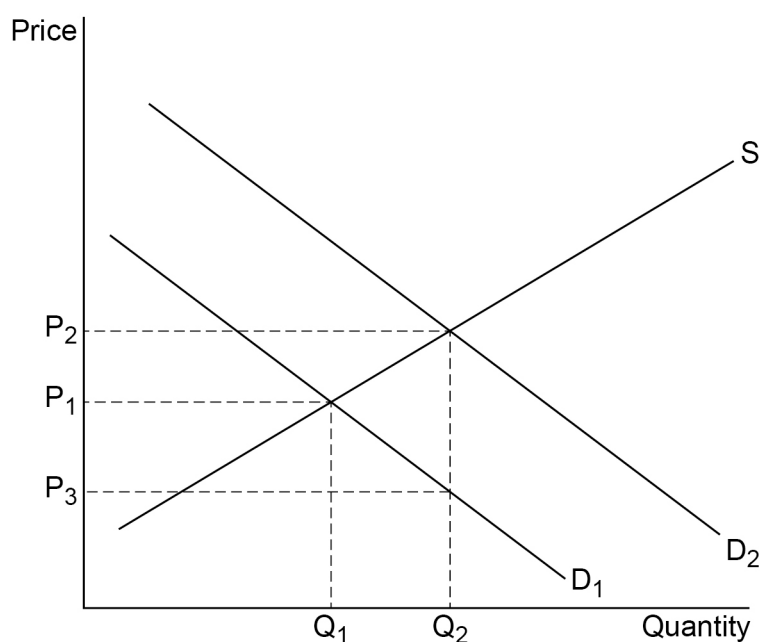
[1 mark]

- A** Healthcare has the characteristics of a private and public good.
- B** Production of healthcare addresses the basic economic questions of 'how' and 'for whom'.
- C** Provision of healthcare is equitable.
- D** The supply of healthcare achieves productive efficiency.

☐☐☐☐**Turn over ►**

1 7

Figure 4 shows the free market demand (D_1) and supply (S) curves for a merit good. D_2 is the demand curve if all the benefits from consuming the good are taken into account.

Figure 4

Which one of the following government policies would be most likely to achieve the socially optimal level of consumption?

[1 mark]

- A** A maximum price of P_3
- B** A minimum price of P_2
- C** A subsidy of P_1 minus P_3 per unit
- D** A subsidy of P_2 minus P_3 per unit

☐☐☐☐

1 8

The income elasticity of demand for cheese sandwiches is -1.2 .

This means that cheese sandwiches

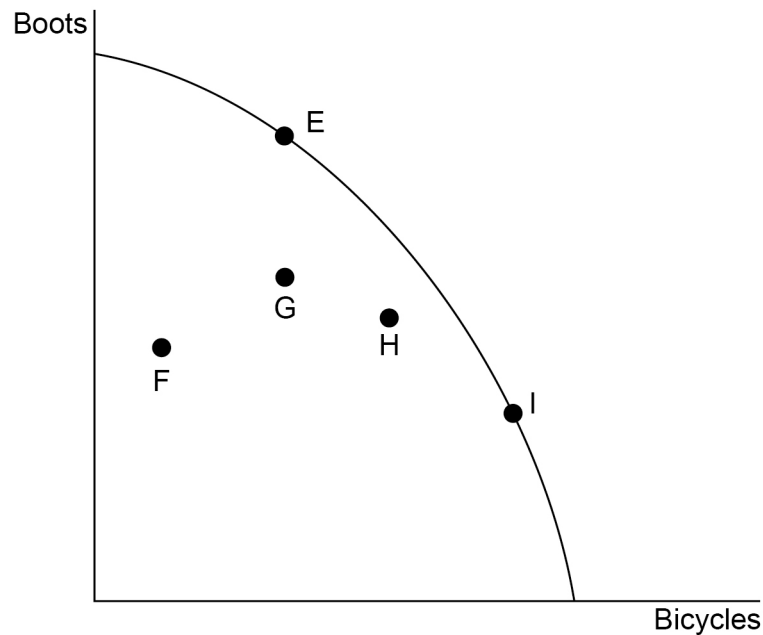
[1 mark]

- A** are a normal good.
- B** are an inferior good.
- C** have an income inelastic demand.
- D** have many substitutes.

☐☐☐☐

1 9

Figure 5 shows the production possibility curve for an economy producing boots and bicycles. The initial combination of boots and bicycles produced is shown by point **E**.

Figure 5

A change in consumer preferences causes the boot industry to contract and the bicycle industry to expand.

If labour is not fully mobile between the two industries, then the new combination of boots and bicycles produced is most likely to be at

[1 mark]**A** point F.☐**B** point G.☐**C** point H.☐**D** point I.☐**2 0**

Which one of the following characteristics of firms can be used to distinguish between market structures?

[1 mark]**A** Firms' productivity and total costs☐**B** The amount that firms choose to produce☐**C** The extent to which firms differentiate their products☐**D** The type of technology used by firms☐**20****END OF SECTION A****Turn over ►**

Section B

Look at the Insert and choose to answer **EITHER** Context 1 **OR** Context 2.

Answer **EITHER** Questions 21 to 26 in the spaces below

OR

Questions 27 to 32 on pages 23 to 32 of this answer booklet.

There is a total of 50 marks for either context.

Shade the circle below to indicate which context you have answered.

Context **0 1** ☐

Context **0 2** ☐

CORRECT METHOD ☒

WRONG METHODS

**EITHER****Context 1**

Total for this context: 50 marks

OIL

Use the Insert provided to study **Questions 21 to 26** and **Extracts A, B and C**, and then answer the questions in the spaces which follow.

2 1 Define 'price elasticity of demand' **Extract B** (lines 5–6).

[3 marks]



2	2
---	---

Extract B (lines 4–5) states: ‘the average monthly price of Brent crude (one of two key oil prices) has varied from \$116.52 in February 2013 to \$23.34 in April 2020’.

Calculate the oil price index for April 2020, if February 2013 is taken to be the starting point (base year) of the oil price index. Give your answer to the **nearest whole number**.

[4 marks]

Turn over for the next question

Turn over ►



2 3

Use **Extract A (i)** to identify **two** significant features of the price of Brent crude oil over the period shown.

[4 marks]

Feature 1 _____

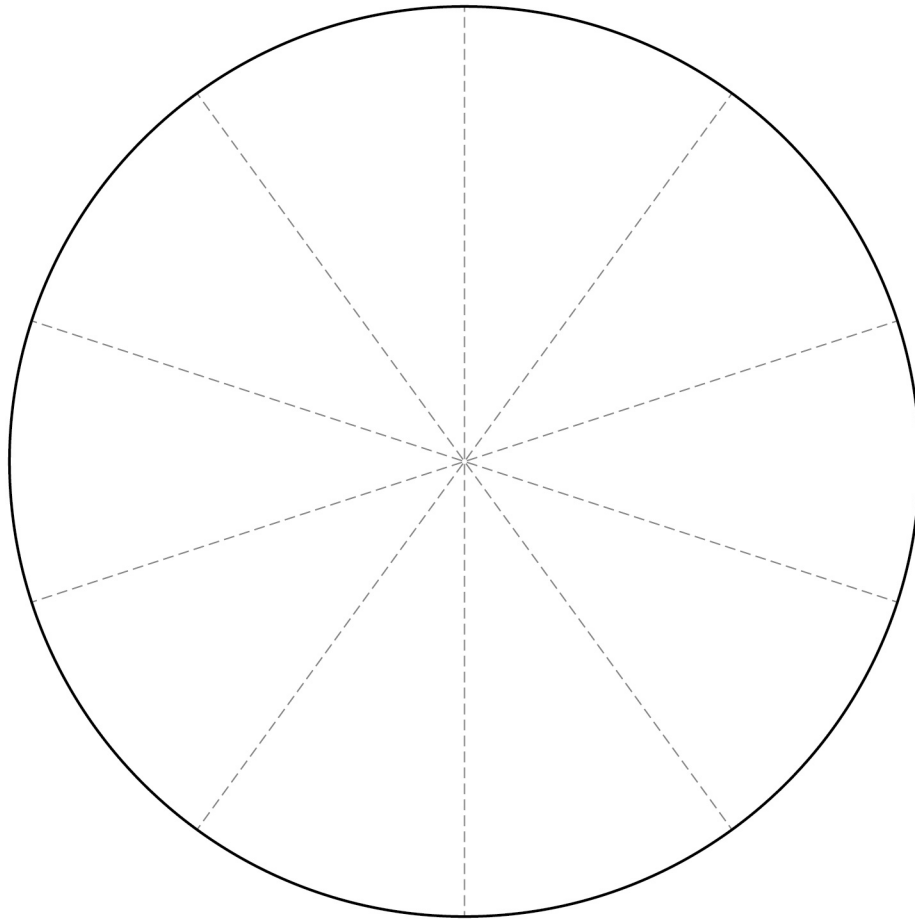
Extra space _____

Extra space _____



2 4

Use the data in **Extract A (ii)** to complete the pie chart to show the market shares of each of the following oil producers in 2019: Canada, OPEC, Russia, the United States and Others.

[4 marks]

As a guide, each sector of the pie chart above represents 10% of the total market share. Use of a protractor is not required.

Turn over for the next question

Turn over ►



[10 marks]

[illegible]

[illegible]

[25 marks]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Do **not** answer Context 2 if you have answered Context 1.

OR

Context 2

Total for this context: 50 marks

DRONES

Use the Insert provided to study **Questions 27 to 32** and **Extracts D, E and F**, and then answer the questions in the spaces which follow.

2 7 Define 'factors of production' **Extract F** (line 2).

[3 marks]

2 8 **Extract F** (lines 10–12) states: 'The total cost of a delivery consists of £150 for the drone and another £350 to carry out the whole operation. The drone carries food weighing 110 pounds (50 kilos), enough for 50 people for a day.'

Calculate the average total cost of delivering food weighing one pound. Give your answer to the **nearest penny**.

[4 marks]

Turn over ►



2 9

Use **Extract D (i)** to identify **two** significant features of the worldwide sales of commercial drones over the period shown.

[4 marks]

Feature 1 _____

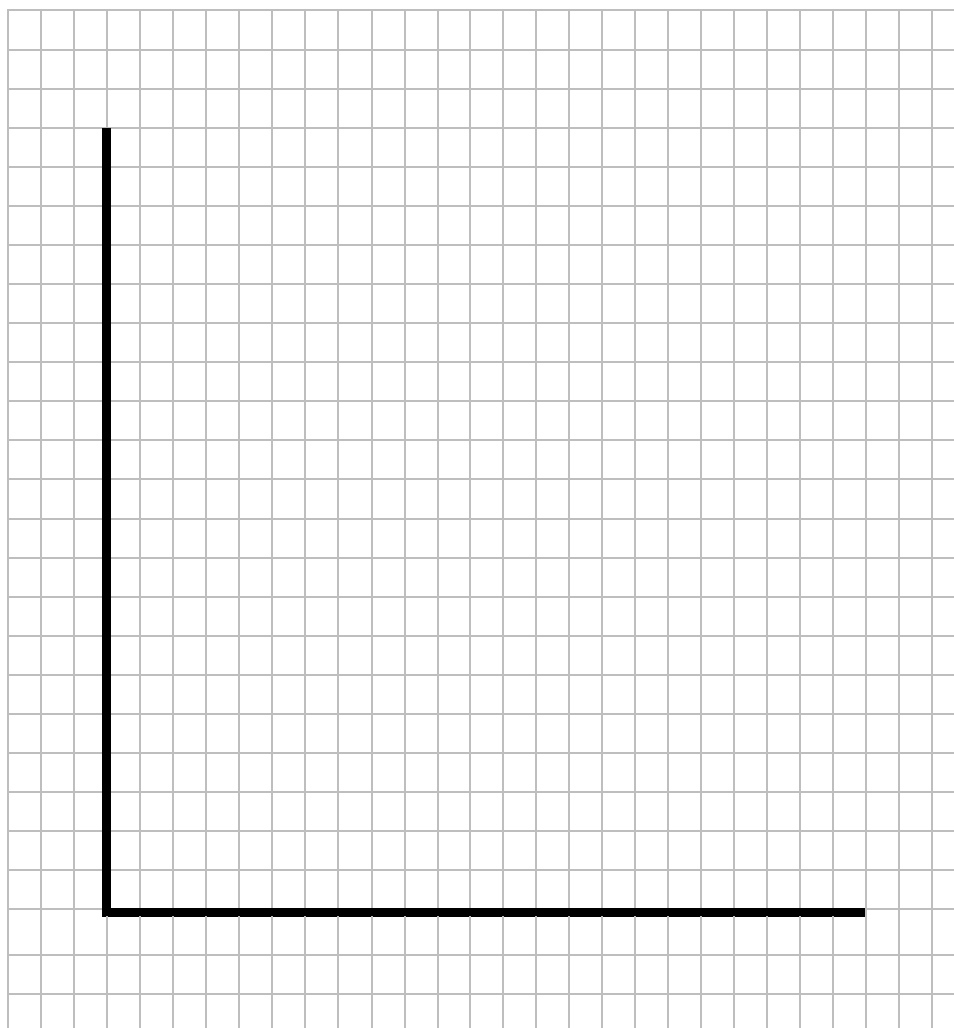
Extra space _____

Extra space _____



3 0

Use the data in **Extract D (ii)** to draw a bar chart to show the number of near misses between drones and planes in the UK for the years 2014, 2016 and 2018.

[4 marks]

Turn over for the next question

Turn over ►



[10 marks]

[illegible]

[illegible]

[25 marks]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

50



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**



[illegible]

[illegible]

[illegible]