



**AS**

**ECONOMICS**

**Paper 1 The Operation of Markets and  
Market Failure**

**7135/1**

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

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## **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?**

**[Turn over]**

# **CONTEXT 1**

**Total for this context: 50 marks**

## **OIL**

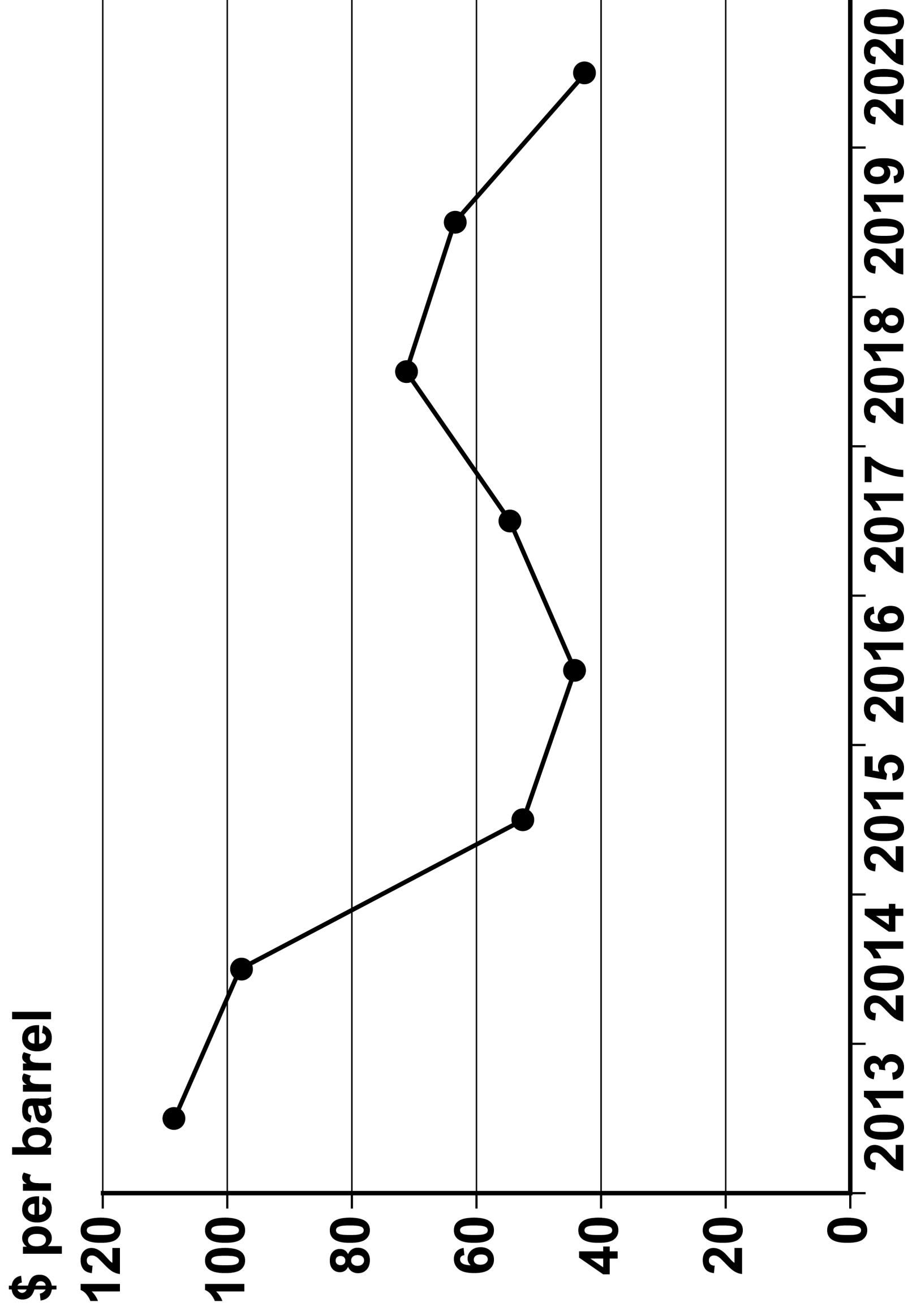
### **EXTRACT A:**

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**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**

<b>COUNTRY/GROUP</b>	<b>MARKET SHARE (%)</b>
<b>Canada</b>	<b>5.9</b>
<b>OPEC</b>	<b>37.4</b>
<b>Russia</b>	<b>12.1</b>
<b>United States</b>	<b>17.9</b>
<b>Others</b>	<b>26.7</b>

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

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## **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.** 5

**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** 10 15



**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.**

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**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,**

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**[Turn over]**

**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.**

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**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. 5**

**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 10**

**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 15**

**extending to 2022, to achieve a ‘secure supply to consumers, and a fair return on invested capital’.**

**[Turn over]**

**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.**

**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 40  
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 45  
electric cars is also increasing but  
some uses of oil still lack viable  
substitutes.**

**Unstable prices, monopoly power,  
environmental concerns and a vital 50  
resource – should governments  
intervene more in the oil industry?**

**Source: News reports, December 2020**

**[Turn over]**

**CONTEXT 1 – QUESTIONS 21 to 26**

2	1
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**Define ‘price elasticity of demand’  
EXTRACT B (lines 12–13). [3 marks]**

2	2
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**EXTRACT B (lines 8–12) 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
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**Use EXTRACT A (i) to identify TWO significant features of the price of Brent crude oil over the period shown.  
[4 marks]**

2	4
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**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]**

**[Turn over]**

2	5
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**EXTRACT C (lines 32–35) 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
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**EXTRACT C (lines 49–52) 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]**

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## **CONTEXT 2**

**Total for this context: 50 marks**

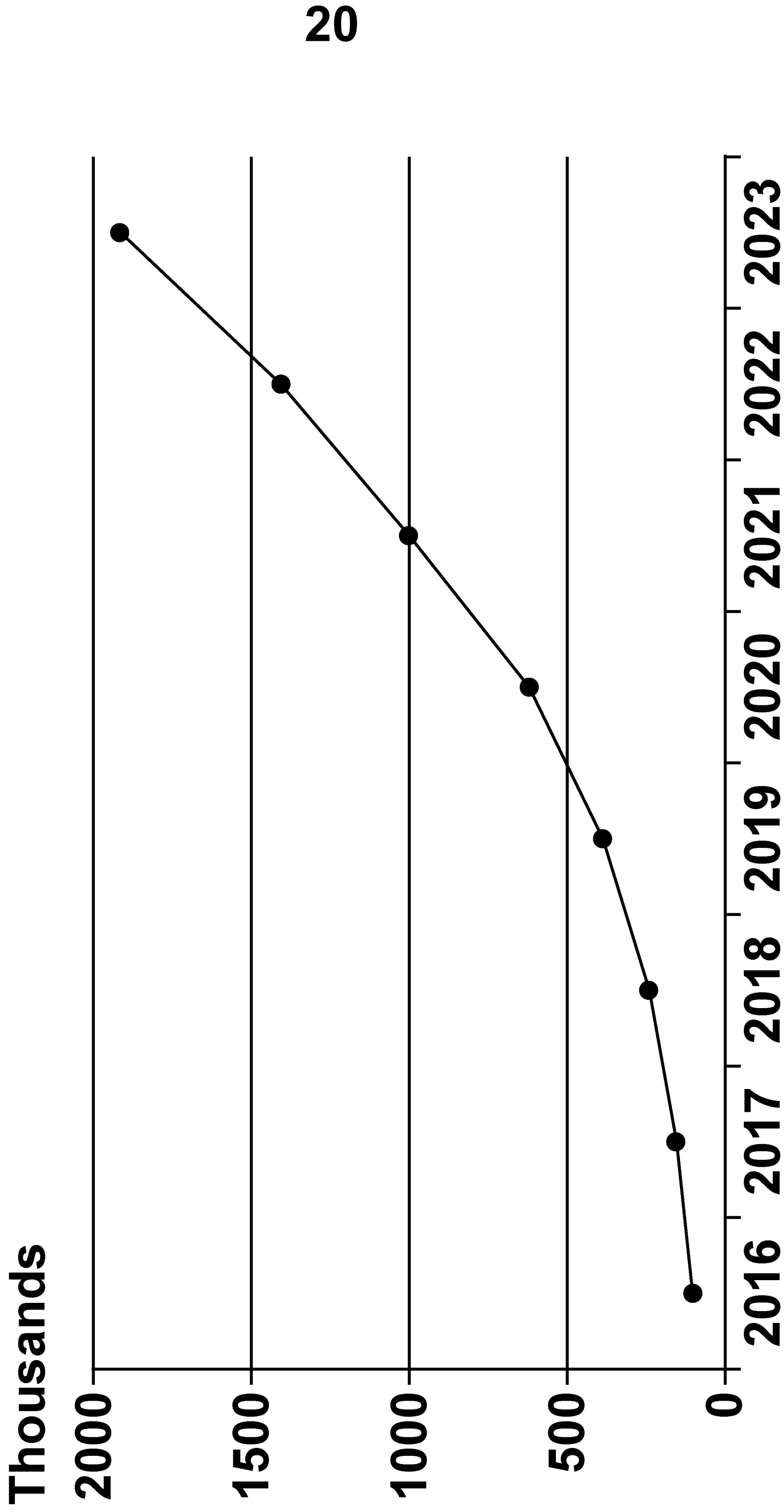
### **DRONES**

#### **EXTRACT D:**

**Annual worldwide sales of commercial drones, 2016–2023  
and near misses between drones and planes in the UK,  
2014–2018**

**[Turn over]**

**(i) Annual worldwide sales of commercial drones, actual and projected, 2016–2023**



**(ii) Near misses between drones and planes in the UK,  
2014–2018**

<b>YEAR</b>	<b>NEAR MISSES</b>
<b>2014</b>	<b>9</b>
<b>2015</b>	<b>29</b>
<b>2016</b>	<b>71</b>
<b>2017</b>	<b>93</b>
<b>2018</b>	<b>125</b>

**Source: Statista.com**

**[Turn over]**

**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.**

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**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**

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**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.**

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

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**Source: News reports, December 2020**

**[Turn over]**

## **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.** 5

**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.** 10 15 20



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. 25

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 30 35 40

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**£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. 45**

**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. 50 55**

**Source: News reports, December 2020**

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**CONTEXT 2 – QUESTIONS 27 to 32**

2	7
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**Define ‘factors of production’ EXTRACT F (line 4). [3 marks]**

2	8
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**EXTRACT F (lines 24–29) 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
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**Use EXTRACT D (i) to identify TWO significant features of the worldwide sales of commercial drones over the period shown. [4 marks]**

3	0
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**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]**

3	1
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**EXTRACT E (lines 19–21) 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
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**EXTRACT F (lines 56–59) 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**

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