

## AS ECONOMICS

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

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## Insert

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

#### **CONTEXT 1: WATER**

##### **Questions 21 to 26**

- **Extract A:** Average annual water usage, in cubic metres, with and without a water meter
- **Extract B:** Water, water, everywhere?
- **Extract C:** How should water be paid for?

#### **CONTEXT 2: ALCOHOL**

##### **Questions 27 to 32**

- **Extract D:** Affordability of alcohol index, UK, 2008–2017 (1980 = 100)
- **Extract E:** Minimum unit pricing for alcohol in Scotland
- **Extract F:** Early indications of success?

**Context 1****Total for this context: 50 marks****WATER****Extract A: Average annual water usage, in cubic metres, with and without a water meter**

| Number of people in the household | With meter (cubic metres) | Without meter (cubic metres) |
|-----------------------------------|---------------------------|------------------------------|
| 1                                 | 54                        | 66                           |
| 2                                 | 101                       | 110                          |
| 3                                 | 134                       | 136                          |
| 4                                 | 164                       | 165                          |
| 5                                 | 191                       | 182                          |
| 6                                 | 216                       | 200                          |

Source: Consumer Council for Water, December 2019

**Extract B: Water, water, everywhere?**

Water is a basic human need. Although viewed by some as freely available, to make it fit for household and business use, it must be extracted and processed. Land, labour and capital are required, including reservoirs and pipe networks. Water is a scarce but vital resource used in a variety of industries, as well as for drinking, washing and cooking. 1

The water industry could be described as a pure monopoly and until 1989, it was run by the government. Ownership in England and Wales was then transferred to 10 private sector firms, each with a regional monopoly. These are regulated by Ofwat, the Water Services Regulation Authority. The regulator tries to prevent the firms from abusing their monopoly power by setting standards for the quality of service and restricting price rises to limit profit. Ofwat announced recently that water firms would have to cut the average customer bill by £50 over the next five years and improve their performance. In Scotland and Northern Ireland, water supplies are still publicly owned. 5 10

Most water (and sewerage) services are not provided by competitive markets, where firms compete using price or non-price methods. Only businesses can choose their water supplier. As with gas and electricity, business customers buy their water supply from a firm, which has bought that package from a water company. Household consumers have no choice. For example, if you live in Plymouth, South West Water provides your water. 15

Source: News reports, January 2020

**Extract C: How should water be paid for?**

|  |        |
|--|--------|
| Since 1990, all new houses have been fitted with a water meter. Customers in older houses can ask for a meter to be installed. Consumers' bills are then determined by the amount of water used and a fixed charge for treating the water and administration. In 2017, seven water companies in southern England were classified as in 'areas of serious water stress' and allowed to introduce compulsory metering. In non-metered houses, bills are based on the value of the property (rateable value) not on the amount of water used. Therefore, owners of more expensive houses usually pay more for their water, regardless of the number of occupants. In non-metered homes, there is no extra charge, for example, to water the garden. | 1<br>5 |
| When people pay according to quantity used, they are less likely to be wasteful. One report claims that homes with meters use on average 10% to 15% less water than those without. This saves money. For example, a bath may use 80 litres of water but a shower half as much. People who cut their water use may also save on energy bills, as less water is heated.  | 10     |
| Although metering may be fairer, consumers may prefer a choice, both of pricing system and supplier. The National Campaign for Water Justice, a group that opposes metering, argues that the poorest could end up with higher bills if forced to have a meter, particularly large families who live in homes with a low rateable value. A number of problems could occur if they reduce their water use too much. Could there be an impact on health? It is often said that we should drink two litres of water a day. Tap water is cheaper and better for the environment than plastic bottles.   | 15     |
| Perhaps a maximum price should be set for water and if competition can be introduced for gas and electricity, why not for water?   | 20     |

Source: News reports, January 2020

**Turn over for Context 1 questions**

**Turn over ►**

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**Context 1 – Questions 21 to 26**

- |   |   |
|---|---|
| 2 | 1 |
|---|---|
- Define 'profit'
- Extract B**
- (line 9).
- [3 marks]**
- 
- 
- |   |   |
|---|---|
| 2 | 2 |
|---|---|
- Extract C**
- (line 11) states: 'a bath may use 80 litres of water but a shower half as much'.
- 
- 
- If a litre of water costs 0.4p, calculate how much money would be saved in a week if a family of four each had a shower every day instead of a bath.
- [4 marks]**
- 
- 
- |   |   |
|---|---|
| 2 | 3 |
|---|---|
- Use
- Extract A**
- to identify
- two**
- significant points of comparison between the average annual water usage of households with and without a water meter.
- [4 marks]**
- 
- 
- |   |   |
|---|---|
| 2 | 4 |
|---|---|
- Extract C**
- (line 20) states: 'Perhaps a maximum price should be set for water'.
- 
- 
- Draw a diagram to show the impact on the market for water of setting a maximum price below the equilibrium.
- [4 marks]**
- 
- 
- |   |   |
|---|---|
| 2 | 5 |
|---|---|
- Extract B**
- (lines 13–14) states: 'Most water (and sewerage) services are not provided by competitive markets... Only businesses can choose their water supplier'.
- 
- 
- Explain how firms in the water industry could compete to attract businesses or other customers.
- [10 marks]**
- 
- 
- |   |   |
|---|---|
| 2 | 6 |
|---|---|
- Extract C**
- (line 9) states: 'When people pay according to quantity used, they are less likely to be wasteful'.
- 
- 
- Use the extracts and your knowledge of economics to assess whether all households should pay according to the amount of water they use.
- [25 marks]**

**There are no extracts printed on this page**

**Turn over for Context 2**

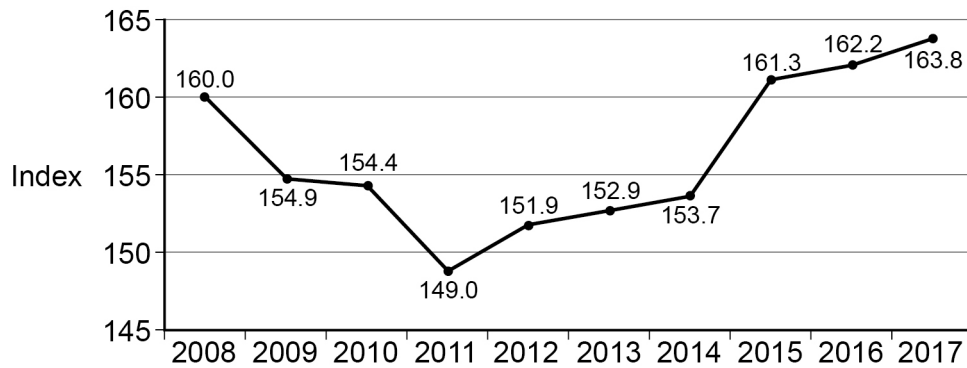
**Turn over ►**

## Context 2

Total for this context: 50 marks

## ALCOHOL

## Extract D: Affordability of alcohol index, UK, 2008–2017 (1980 = 100)



**Note:** A higher figure indicates that alcohol has become more affordable

Source: NHS Digital, December 2019

## Extract E: Minimum unit pricing for alcohol in Scotland

Throughout the UK, alcohol has traditionally been viewed as a demerit good, subject to high indirect taxes and regulation. The minimum age for buying alcohol is 18, although in some countries, such as the US, the minimum age is 21.

1

In May 2018, Scotland became the first country to introduce minimum unit pricing (MUP). Alcohol must now be sold for at least 50p per unit of alcohol. This means that a two-litre bottle of cider costs at least £5 and a standard (70cl) bottle of whisky a minimum of £14. A leading discount supermarket had previously charged £1.99 and £10 respectively. MUP is due to come into force in Wales in 2020 and has been under consideration in the Republic of Ireland. The Northern Ireland government discussed the issue but currently there are no plans to introduce MUP there or in England.

5

10

The misuse of alcohol has external as well as private costs. Before the introduction of MUP, alcohol misuse was estimated to cost Scotland £3.6 billion every year, averaging about £900 per adult. There were typically 22 alcohol-related deaths a week and it was hoped that 392 lives could be saved in the first five years. Alcohol-related crime was also a concern. For example, 46% of violent crime in Scotland in 2017/18 was reported to be alcohol-related.

15

Source: News reports, January 2020

## Extract F: Early indications of success?

A study by NHS Health Scotland published in 2019 claims that MUP has been a success. 1  
The report found no increase in illegal activity such as smuggling. However, there was  
evidence of people crossing the border to shop in England and using the home delivery  
services of English stores, to avoid the higher prices. There had also been some stockpiling of  
alcohol before the law came into force. 5

Research suggests that, on average, Scottish adults have bought 1.2 fewer units of alcohol per  
week, equivalent to about half a pint of beer. This fall of 7.5% was more than double the figure  
expected. Not surprisingly, sales fell more significantly for previously cheap cider (36%)  
whereas wine sales fell by only 3.7%. It would appear that low-income households have cut  
back more than those with a high income, although on average, an extra 61p per adult per week 10  
was spent on alcohol.

However, another survey found that alcohol-related deaths rose by 16 in 2018 and claimed that  
even more alcohol was sold in the first nine months of minimum pricing. Critics believe it is too  
early to be sure of the full effects of MUP, including improvements to health. Furthermore, the  
research may not show the changes for some heavy drinkers, particularly the homeless. For 15  
those addicted to alcohol, price is unlikely to be the key factor.

An article in the British Medical Journal claimed: 'The need for effective interventions...is urgent  
not only in Scotland – which has among the highest levels of alcohol attributable harm in  
Europe, but also across the rest of the UK.' Speaking in 2018, the Chair of the Alcohol Health  
Alliance (AHA), a group of over 50 medical organisations, said: 'Cheap alcohol is wrecking lives 20  
and livelihoods in England as well as Scotland.' He went on to claim that the poorest and most  
vulnerable parts of society account for many of the 23 000 alcohol-related deaths a year in  
England, with the north east of England facing similar problems to Scotland.

Source: News reports, December 2019

**Turn over for Context 2 questions**

**Turn over ►**

## Context 2 – Questions 27 to 32

- 2 7** Define 'income' **Extract F** (line 10). [3 marks]
- 2 8** According to **Extract E** (lines 6–7), the price of a standard bottle of whisky had to rise from £10 to £14 in a discount supermarket, as a result of minimum unit pricing (MUP).  
If the demand for whisky fell by 6.3% in the first year as a result of the price change, calculate the price elasticity of demand for whisky, to **two** decimal places. [4 marks]
- 2 9** Use **Extract D** to identify **two** significant features of the affordability of alcohol index for the UK, over the period shown. [4 marks]
- 3 0** **Extract E** (lines 2–3) states: 'The minimum age for buying alcohol is 18, although in some countries, such as the US, the minimum age is 21'.  
Draw a diagram to show the impact on the market for alcohol of raising the age for buying alcohol in the UK from 18 to 21. [4 marks]
- 3 1** **Extract E** (lines 1–2) states: 'alcohol has traditionally been viewed as a demerit good, subject to high indirect taxes'.  
Explain the likely effects of imposing indirect taxes on alcohol. [10 marks]
- 3 2** **Extract F** (lines 20–21) states: 'Cheap alcohol is wrecking lives and livelihoods in England as well as Scotland'.  
Use the extracts and your knowledge of economics to assess whether a minimum price for alcohol should be introduced in England and Northern Ireland. [25 marks]

## END OF QUESTIONS

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Centre number

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Surname

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Forename(s)

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Candidate signature

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I declare this is my own work.

# AS ECONOMICS

## Paper 1 The Operation of Markets and Market Failure

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                  |      |
| <b>TOTAL</b>       |      |



**Section A**Answer **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**

Choice is central to the economic problem because

**A** incomes are unequally distributed.☐**B** most resources are scarce.☐**C** people's wants are greater than their needs.☐**D** people's wants are limited.☐**[1 mark]****0 2**

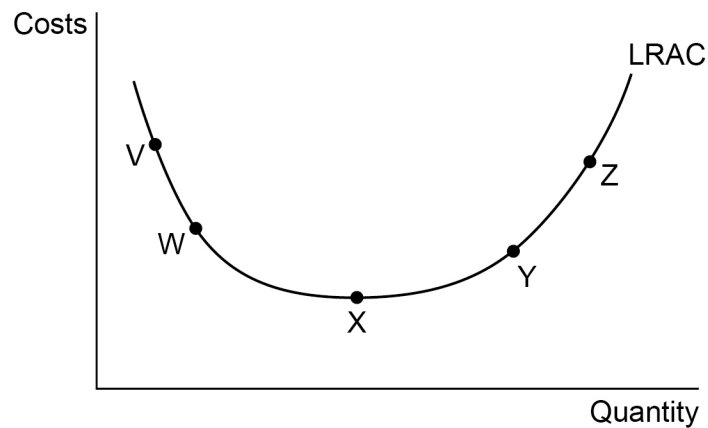
A fast food restaurant is willing to supply 3000 burgers a week at a market price of £5 a burger. The price elasticity of supply of burgers is 2. If the market price falls to £4 a burger, the number of burgers that the restaurant will be willing to supply will be

**A** 1800☐**B** 2700☐**C** 3300☐**D** 4200☐**[1 mark]**

0 3

**Figure 1** shows the long-run average cost curve (LRAC) for a firm.

**Figure 1**



Which one of the following movements along the curve shows a reduction in diseconomies of scale?

**A** V to W

☐

**B** X to W

☐

**C** X to Y

☐

**D** Z to Y

☐

[1 mark]

0 4

A government decides to increase its subsidy to rail services to encourage more people to travel by rail. The subsidy is most likely to be successful if rail travel has a

**A** demand that is elastic with respect to price.

☐

**B** demand that is inelastic with respect to price.

☐

**C** high positive income elasticity of demand.

☐

**D** negative cross elasticity of demand with respect to car travel.

☐

[1 mark]

Turn over ►



**0 5** A public good always has the characteristic that

- A** consumption by one person does not reduce availability to others. ☐
- B** it is provided free of charge by the government to all citizens. ☐
- C** its consumption gives rise to positive externalities for others. ☐
- D** the supply is funded from a government's tax revenue. ☐

[1 mark]

**0 6** Which one of the following best describes the market conditions for a firm in a perfectly competitive market?

- A** Limited consumer information and no product differentiation ☐
- B** Low entry barriers and some product differentiation ☐
- C** No entry barriers and low price-setting power ☐
- D** No price-setting power and unlimited consumer information ☐

[1 mark]



**0 7**

Weekly sales of doughnuts are 20 000 and the market price is £1.20 per doughnut. The government introduces a new indirect tax of 15p per doughnut. Sales fall to 16 000 a week and the price rises to £1.30 per doughnut.

The share of the total weekly tax that is borne by doughnut producers is

**A** £800

☐

**B** £1000

☐

**C** £1600

☐

**D** £2400

☐

**[1 mark]**

**0 8**

An economist puts forward a hypothesis, collects evidence to test it, and then accepts, modifies, or rejects the hypothesis.

This is an example of

**A** a positive policy statement.

☐

**B** economic methodology.

☐

**C** how value judgements influence economic decisions.

☐

**D** normative economics.

☐

**[1 mark]**

**Turn over for the next question**

**Turn over ►**



**0 9**

A government plans to plant a new forest to provide a recreation facility and help combat climate change.

Estimates of the costs and benefits are shown in **Table 1**.

**Table 1**

|           | Private costs | Social costs | Private benefits | Social benefits |
|-----------|---------------|--------------|------------------|-----------------|
| £ million | 13            | 9            | 14               | 16              |

From the figures in **Table 1**, it can be concluded that the forest project will have

- A** negative production externalities of £9 million.
- B** positive consumption externalities of £16 million.
- C** positive production externalities of £4 million.
- D** total externalities of £25 million.

☐
☐
☐
☐

**[1 mark]**

**1 0**

The demand for cocoa is derived from the demand for chocolate. When the demand for chocolate falls, the most likely result is a

- A** movement along the demand curve for cocoa.
- B** movement along the supply curve for cocoa.
- C** shift left of the supply curve for cocoa.
- D** shift right of the demand curve for cocoa.

☐
☐
☐
☐

**[1 mark]**



1 1

**Table 2** shows the total output of a small firm and the numbers of workers employed in each of four months.

**Table 2**

| Month    | Workers | Total output |
|----------|---------|--------------|
| January  | 12      | 2400         |
| February | 11      | 2300         |
| March    | 14      | 2700         |
| April    | 13      | 2500         |

Which one of the following is a true statement about production and labour productivity during this period?

**A** Both production and labour productivity rose between February and March

☐

**B** Both production and labour productivity were higher in April than January

☐

**C** Labour productivity rose but production fell between January and February

☐

**D** March had both the highest production and the highest labour productivity

☐

**[1 mark]**

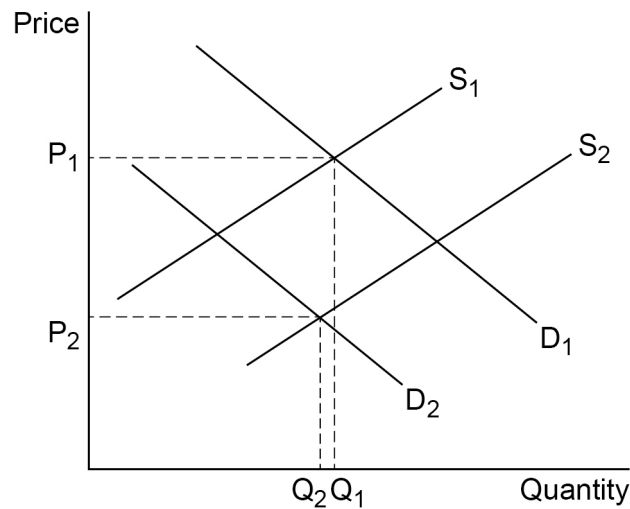
**Turn over for the next question**

**Turn over ►**



**1 2**

**Figure 2** shows supply and demand in the market for beef.  $D_1$  shows the initial demand and  $S_1$  the initial supply curve.

**Figure 2**

Which one of the following combinations of events would be most likely to cause demand to shift from  $D_1$  to  $D_2$  and supply from  $S_1$  to  $S_2$ ?

- A** A fall in the price of chicken and an increase in the price of animal feed
- B** A fall in workers' wages and a shift in preferences towards vegetarian food
- C** Higher disposable incomes and a fall in farm productivity
- D** Higher rents for farmland and health warnings about eating red meat

☐☐☐☐**[1 mark]****1 3**

A firm normally has some fixed and variable costs in the short run. However, in the long run

- A** all costs become fixed.
- B** fixed costs become variable.
- C** fixed costs become very small.
- D** variable costs become fixed.

☐☐☐☐**[1 mark]**



**1 4**

The price mechanism allocates resources by

- A** allowing prices to rise and ration demand when there is a surplus in the production of a good.
- B** preventing firms with monopoly power from exploiting consumers and charging a price above the competitive price.
- C** setting prices to ensure that the opportunity cost of producing a good is less than its social cost.
- D** setting relative prices to determine the quantity of factors of production used in producing each good.

☐☐☐☐**[1 mark]****1 5**

A firm manufactures and sells fresh fruit drinks. The firm sells 200 bottles of fruit drink each week; its weekly total costs are £540, which includes £300 of fixed costs. The drink is sold at £4 a bottle.

A rival firm drops out of the market and sales increase to 250 bottles a week. Other things remaining the same, profit per week increases by

- A** £65
- B** £125
- C** £140
- D** £400

☐☐☐☐**[1 mark]****1 6**

Which one of the following is most likely to increase barriers to firms wishing to enter a market?

- A** Government subsidies to small firms
- B** Higher labour mobility between different industries
- C** New technology that increases the scope for economies of scale
- D** Reduced spending on advertising by firms already in the market

☐☐☐☐**[1 mark]****Turn over ►**

**1 7**

The cross elasticity of demand for chips with respect to the price of rice is positive. It can be concluded that chips and rice are

**A** inferior goods.

☐

**B** jointly demanded.

☐

**C** normal goods.

☐

**D** substitute goods.

☐

**[1 mark]**

**1 8**

A firm that is a pure monopoly can result in market failure because

**A** consumers lack information on alternative suppliers.

☐

**B** products will be identical.

☐

**C** the firm does not experience economies of scale.

☐

**D** the firm's output is too low.

☐

**[1 mark]**



1 9

A shift left in the supply curve causes a market to be in disequilibrium at the original market price because

- A** consumers cannot buy as much as they would like.
- B** consumers no longer wish to buy the same quantity.
- C** firms are willing to supply more of the good.
- D** firms experience an increase in their stocks of the good.

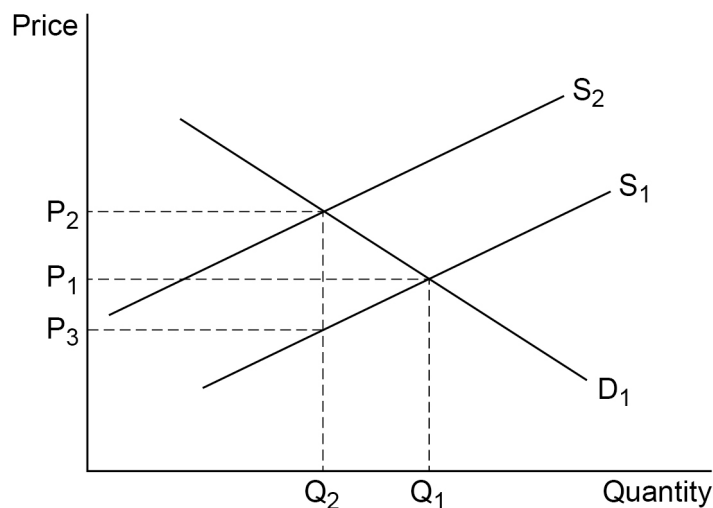
☐☐☐☐

[1 mark]

2 0

Many goods are sold in plastic packaging that has harmful effects on the environment. In **Figure 3**,  $D_1$  and  $S_1$  are the free market demand for and supply of plastic packaged goods.  $S_2$  would be the supply if firms took account of the cost to the environment of plastic packaging.

Figure 3



The government decides to implement a policy that would result in production moving from the free market level at  $Q_1$  to the social optimum at  $Q_2$ . Which one of the following policies is most likely to achieve the government's objective?

- A** A subsidy at the rate  $P_1 P_3$
- B** A subsidy at the rate  $P_2 P_3$
- C** A tax at the rate  $P_2 P_1$
- D** A tax at the rate  $P_2 P_3$

☐☐☐☐

[1 mark]

END OF SECTION A

20

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.

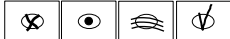
There is a total of 50 marks for either context.

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

Context **0 1** ☐

Context **0 2** ☐

WRONG METHODS



CORRECT METHOD



**EITHER**

**Context 1**

**Total for this context: 50 marks**

**WATER**

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 'profit' **Extract B** (line 9).

**[3 marks]**

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**2 2****Extract C** (line 11) states: 'a bath may use 80 litres of water but a shower half as much'.

If a litre of water costs 0.4p, calculate how much money would be saved in a week if a family of four each had a shower every day instead of a bath.

**[4 marks]**

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**Turn over for the next question****Turn over ►**

**2 3**

Use **Extract A** to identify **two** significant points of comparison between the average annual water usage of households with and without a water meter.

**[4 marks]**

Comparison 1 \_\_\_\_\_

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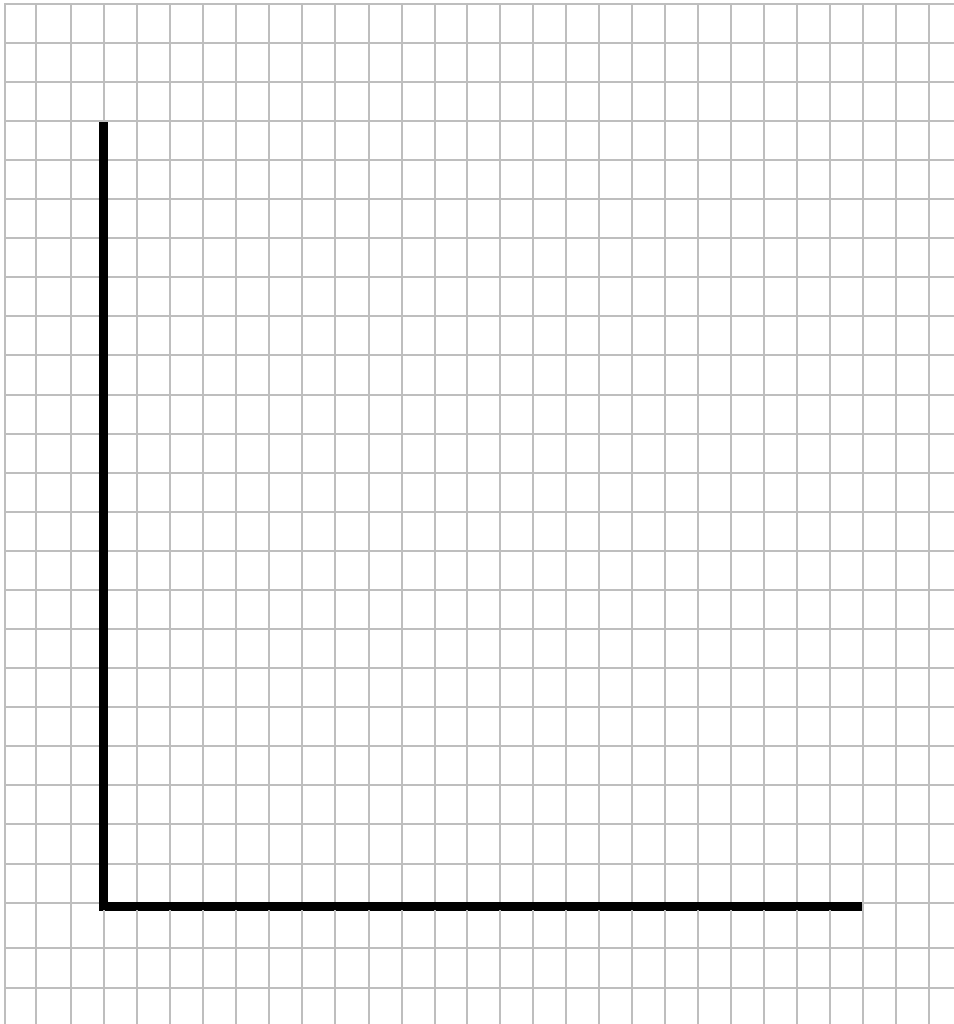
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**2 4****Extract C** (line 20) states: 'Perhaps a maximum price should be set for water'.

Draw a diagram to show the impact on the market for water of setting a maximum price below the equilibrium.

**[4 marks]**

Turn over for the next question

Turn over ►



**[10 marks]**

[illegible]

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[illegible]

**Extract C** (line 9) states: 'When people pay according to quantity used, they are less likely to be wasteful'.

**[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

### ALCOHOL

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 'income' **Extract F** (line 10).

[3 marks]

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**2 8** According to **Extract E** (lines 6–7), the price of a standard bottle of whisky had to rise from £10 to £14 in a discount supermarket, as a result of minimum unit pricing (MUP).

If the demand for whisky fell by 6.3% in the first year as a result of the price change, calculate the price elasticity of demand for whisky, to **two** decimal places.

[4 marks]

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Turn over ►



**2 9**

Use **Extract D** to identify **two** significant features of the affordability of alcohol index for the UK, over the period shown.

**[4 marks]**

Feature 1 \_\_\_\_\_

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Extra space \_\_\_\_\_

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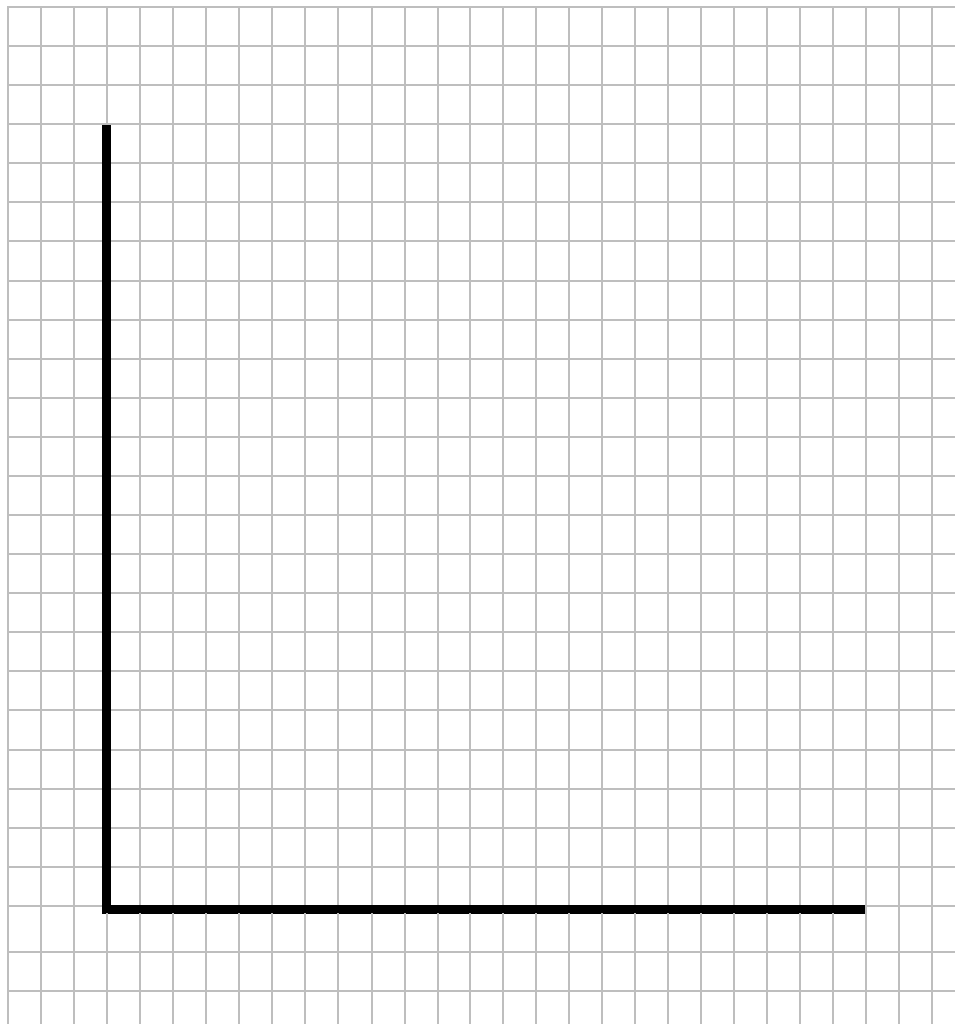




**3 0**

**Extract E** (lines 2–3) states: ‘The minimum age for buying alcohol is 18, although in some countries, such as the US, the minimum age is 21’.

Draw a diagram to show the impact on the market for alcohol of raising the age for buying alcohol in the UK from 18 to 21.

**[4 marks]**

**Turn over for the next question**

**Turn over ►**



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1

Explain the likely effects of imposing indirect taxes on alcohol.

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[illegible]

Use the extracts and your knowledge of economics to assess whether a minimum price for alcohol should be introduced in England and Northern Ireland.

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

50

**END OF QUESTIONS**





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outside the  
box*

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



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