



## **Economics Questions By Topic:**

### **Elasticities (1.2.3 & 1.2.5)**

### **A-Level Edexcel Theme 1**

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**SECTION A**

**Write your answers in the spaces provided.**

1 (a) The income elasticity of demand for bus travel is estimated to be  $-1.5$ .  
This implies that:

(1)

- A** a 10% increase in fares will lead to a 15% decrease in passengers
- B** as unemployment falls, more people will use buses
- C** bus travel has a negative cross elasticity of demand compared to rail travel
- D** bus travel is an inferior good

(b) Explain why a firm might try to reduce the price elasticity of demand for its products.

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**(Total for Question 1 = 4 marks)**

- 2 Between 2016 and 2017 the average price of new build houses in the UK rose by an estimated 5.4%.

Year	Quantity of UK new house builds
2016	134 612
2017	162 880

(Source: <http://www.telegraph.co.uk/business/2017/05/25/number-new-homes-built-hits-highest-level-since-financial-crisis/>)

- (a) With reference to the data provided, calculate the price elasticity of supply for new house builds between 2016 and 2017. You are advised to show your workings.

(2)

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- (b) A 2.5% increase in new build house prices in one region of the UK causes a 10% increase in the number of houses built. Ceteris paribus, this suggests that supply of new house builds is:

(1)

- A perfectly price elastic
- B perfectly price inelastic
- C relatively price elastic
- D relatively price inelastic

(c) Explain **one** factor that is likely to determine the price elasticity of supply of new house builds.

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**(Total for Question 2 = 5 marks)**

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**3** Amazon Prime, Netflix and NowTV all charge £7.99 per month for streaming very similar film and television services.

(a) The most likely cross price elasticity of demand for close substitutes is:

(1)

- A** - 2.1
- B** - 0.1
- C** + 0.1
- D** + 2.1

In 2016 the average cinema ticket price in the UK was £7.41, and there were 19.1 million tickets sales. The price elasticity of demand was estimated to be  $-0.5$ .

(b) Calculate the new total revenue if prices were raised by 3% in 2017 to £7.63, if everything else remained unchanged. You are advised to show your working.

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**(Total for Question 3 = 4 marks)**

4

	2015	2017
Average weekly pocket money for children aged under 10 years	£7	£8.75

In the UK, Freddo is a popular chocolate snack bought by children who are under 10 years old. Freddo's income elasticity of demand is estimated to be  $-0.1$ .

(a) Calculate the percentage change in quantity demanded for Freddos between 2015 and 2017, *ceteris paribus*:

(1)

- A**  $-0.8\%$
- B**  $-2\%$
- C**  $-2.5\%$
- D**  $-25\%$

(b) Explain **one** reason why the income elasticity of demand is significant to the producer of Freddos.

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**(Total for Question 4 = 4 marks)**







(b) Which **one** of the following is most likely to be a determinant of price elasticity of demand for the Daily Mail newspaper?

(1)

- A** Availability of rival newspapers
- B** Change in population size
- C** Decrease in the cost of producing the Daily Mail newspaper
- D** Expected rise in the price of the Daily Mail newspaper

**(Total for Question 6 = 3 marks)**

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7 The table shows market data for e-cigarette kits. The original equilibrium price is £23.

Price £	Quantity demanded per month (000)	Quantity supplied per month (000)	New quantity demanded per month (000)	New quantity supplied per month (000)
25	5	9		
24	6	8		
23	7	7		
22	8	6		
21	9	5		

(b) Research conducted in New Zealand in 2014 estimated the cross elasticity of demand for e-cigarettes to be 0.16 in response to changes in the price of tobacco. This implies that a 5% increase in the price of tobacco will cause the percentage change in demand for e-cigarettes to be:

(1)

- A -31.25
- B -0.16
- C 0.8
- D 31.25

(Total for Question 7 = 1 mark)

- 8** Between 2010 and 2015 the average price of tea in the UK increased from £7.20 per kilo to £8.48 per kilo. Over the same period the quantity of tea purchased fell from 97 million kilos to 76 million kilos.

(Source: <http://www.theguardian.com/lifeandstyle/shortcuts/2015/aug/05/brew-do-you-think-you-are-why-tea-needs-to-copy-coffee-in-order-to-survive>)

- (a) Assume that the change in the quantity of tea purchased was only caused by the change in the price of tea. Calculate the price elasticity of demand for tea in response to the rise in its price. You are advised to show your working.

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- (b) Calculate the change in total sales revenue for UK tea retailers between 2010 and 2015. You are advised to show your working.

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(c) Estimates for the demand for black tea in the UK suggest that it is an inferior good. This implies it has a negative:

(1)

- A** cross elasticity of demand
- B** income elasticity of demand
- C** price elasticity of demand
- D** price elasticity of supply

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**(Total for Question 8 = 5 marks)**



**10** At the start of the 2012–13 football season the average ticket price in the top four English football leagues increased by 11%. During the 2012–13 season attendance fell 5%.

(Source: <http://www.espn.co.uk/football/sport/story/237339.html>)

(a) With reference to the data provided, calculate the price elasticity of demand for football tickets in the English football leagues. You are advised to show your working.

(2)

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(b) Derby County Football Club has found that the price elasticity of demand for their tickets is  $-0.3$ . Demand for their tickets is:

(1)

- A** perfectly price elastic
- B** perfectly price inelastic
- C** relatively price elastic
- D** relatively price inelastic

Answer

(c) Given the price elasticity of demand for Derby County Football Club's tickets, explain the likely impact on their revenue of an increase in ticket prices.

(2)

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**(Total for Question 10 = 5 marks)**

11 The table shows the quantity of PlayStation 4 games demanded and supplied.

Price	Quantity demanded per month (000s)	Quantity supplied per month (000s)	New quantity supplied per month (000s)
£25	400	320	
£30	360	360	
£35	320	400	
£40	280	440	
£45	240	480	

As a result of an increase in packaging costs for the games, supply decreased by 80 000 at all prices.

PlayStation 4 games and PlayStation 4 consoles have a negative cross-elasticity of demand. This implies that these goods are:

(1)

- A complements
- B inferior
- C normal
- D substitutes

Answer

(Total for Question 11 = 1 mark)



12

Type of passenger flight	Income elasticity of demand
Short haul	1.6
Long haul	1.8

(Source: [https://www.iata.org/whatwedo/documents/economics/air\\_travel\\_demand.pdf](https://www.iata.org/whatwedo/documents/economics/air_travel_demand.pdf))

The table shows estimated income elasticities of demand for short haul and long haul passenger flights in the United States.

It may be deduced from the data in the table that

(1)

- A demand is income elastic for both short haul and long haul passenger flights
- B demand for short haul passenger flights with regard to a change in price of long haul passenger flights is positive
- C a fall in real income would lead to a proportionately greater increase in demand for long haul passenger flights compared to short haul passenger flights
- D price elasticity of supply of long haul passenger flights exceeds that of short haul passenger flights

Answer

Explanation

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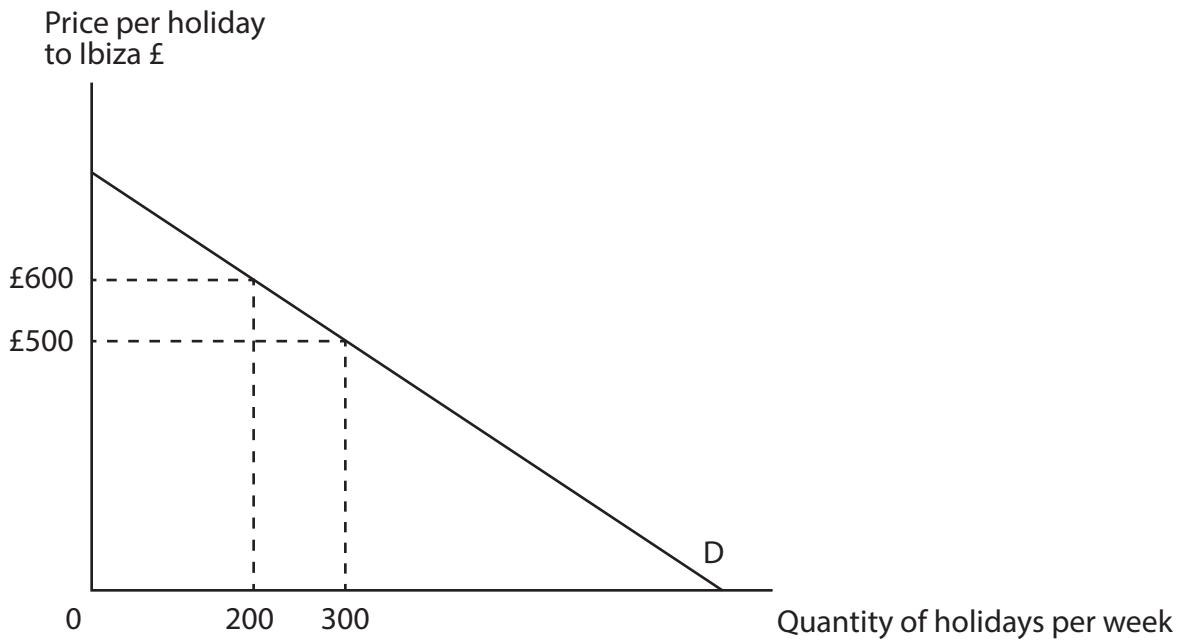
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(Total for Question 12 = 4 marks)

13



The diagram shows the demand curve faced by a firm selling holidays to Ibiza. If the firm increases the price of its holidays from £500 to £600 then, other things being equal, its weekly total revenue will

(1)

- A increase, since demand is price inelastic
- B decrease, since demand is price elastic
- C increase, since demand is price elastic
- D decrease, since demand is price inelastic

Answer

**Explanation**

(3)

Handwriting practice area consisting of 25 horizontal dotted lines.

**(Total for Question 13 = 4 marks)**

14 Estimates of income elasticity of demand for selected products in the UK

Food item	Income elasticity of demand
Fish	0.7
Milk and Eggs	0.9
Meat	1.2

(Source: <https://www.gov.uk/government/publications/food-and-drink-elasticities>)

Other things being equal, the data in the table suggest that:

(1)

- A The demand for milk and eggs is price inelastic
- B Meat and fish have a positive cross elasticity of demand
- C Fish, milk and eggs are all inferior goods
- D Meat has a higher income elasticity of demand than fish

Answer

Explanation

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(Total for Question 14 = 4 marks)

**15** A jewellery retailer reduces the price of designer bracelets from £200 to £180 each. As a result, quantity demanded rises from 20 to 25 per month. The best estimate of price elasticity of demand for this jeweller's designer bracelets is

(1)

- A -2.5
- B -1.25
- C +0.4
- D +2.5

**Answer**

**Explanation**

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**(Total for Question 15 = 4 marks)**

**16** The Institute for Fiscal Studies reported that between 2007 and 2012, average real incomes fell by 7.5% for families with young children. Over the same period it found that these families reduced their expenditure on fruit and vegetables but increased it on processed foods which contain high levels of fat and sugar.

Other things being equal, this information suggests that (1)

- A** the change in quantity of fruit and vegetables demanded in response to a change in price of processed foods is negative
- B** fruit and vegetables are normal goods and processed foods are inferior goods
- C** the price of fruit and vegetables has risen more slowly than the price of processed foods
- D** fruit and vegetables are inferior goods and processed foods are normal goods

**Answer**

**Explanation** (3)

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**(Total for Question 16 = 4 marks)**



**18** Estimates of income elasticity of demand for selected food items in Cyprus and the Maldives.

<b>Product</b>	<b>Cyprus</b>	<b>Maldives</b>
Cereals e.g. rice	-0.12	0.50
Fish	0.37	0.64
Oils and fats	0.00	0.52

(Source: <http://www.ers.usda.gov/Data/InternationalFoodDemand>)

It may be deduced from the data in the table that

(1)

- A** the demand for fish is income inelastic in both countries
- B** the demand for oils and fats is perfectly income elastic in Cyprus
- C** cereals are a normal good in Cyprus but an inferior good in the Maldives
- D** the demand for oils and fats is more responsive than the demand for fish to a change in income in the Maldives

**Answer**

**Explanation**

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**(Total for Question 18 = 4 marks)**



**19** Market research estimates that a 100% increase in the price of coffee in Uganda leads to a 33% increase in the quantity supplied. This information suggests the supply of coffee in Uganda is

(1)

**A** income inelastic

**B** price elastic

**C** unit elastic

**D** price inelastic

**Answer**

**Explanation**

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**(Total for Question 19 = 4 marks)**

**20** Estimates of income elasticity of demand for selected items in Sri Lanka and UK

<b>Product</b>	<b>Sri Lanka</b>	<b>UK</b>
Cereals e.g. rice	0.46	-0.02
Fish	0.62	0.36
Tobacco	1.02	0.57

(Source: © <http://www.ers.usda.gov/Data/InternationalFoodDemand/>  
NB Figures have been rounded up)

It may be deduced from the data in the table that

(1)

- A** the demand for tobacco is income inelastic in both countries
- B** the demand for fish is more responsive to changes in income in both countries than the demand for tobacco
- C** cereals are a normal good in Sri Lanka but an inferior good in the UK
- D** a 10% increase in income would cause a more than 10% increase in demand for fish in both countries

Answer

Explanation

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**(Total for Question 20 = 4 marks)**

21

**UK elasticities of demand for air travel (2011 estimates)**

Price elasticity of demand	-0.6
Income elasticity of demand	+1.3

(Source: © Crown Copyright)

It may be deduced from the data in the table that

(1)

- A air travel is a normal good and demand for it is price inelastic
- B a decrease in the price of air travel will increase total revenue
- C air travel is an inferior good and demand for it is price elastic
- D an increase in income will cause the price of air travel to fall

Answer

Explanation

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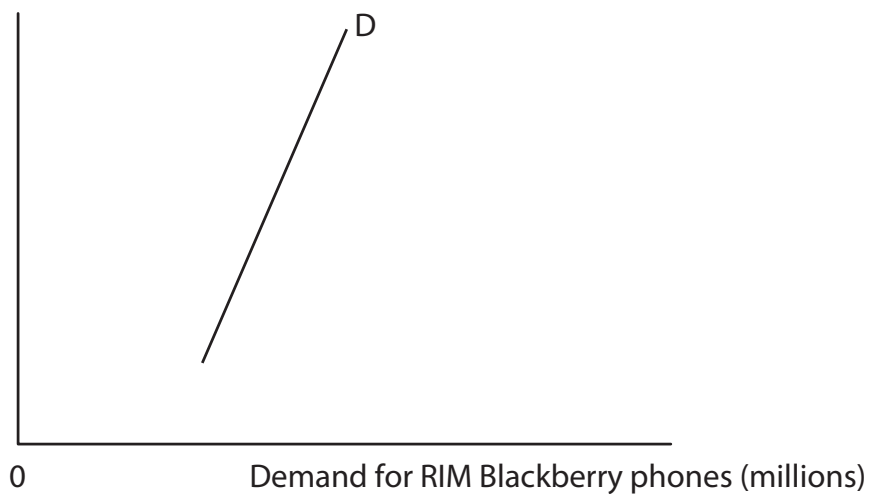
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(Total for Question 21 = 4 marks)

22 Price per Apple iPhone (£)



The diagram shows the relationship between the **price** of the Apple iPhone and the **demand** for the RIM Blackberry phone. It can be deduced from the diagram that these two goods

(1)

- A are price elastic in demand
- B have a negative cross elasticity of demand
- C have a zero cross elasticity of demand
- D are substitutes for each other

Answer

Explanation

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(Total for Question 22 = 4 marks)



**24** The table below shows UK estimates of the percentage changes in price and quantity demanded for fresh fruit and fresh vegetables between 2007 and 2008. You may use the last column for your workings.

Type of food	Price change (%)	Quantity demanded (%)	
Fresh fruit	7.0	-7.7	
Fresh vegetables	8.0	-9.6	

(Source: © Crown Copyright 2008)

Other things being equal the data in the table suggest that:

(1)

- A** Demand is more price elastic for fresh vegetables than fresh fruit.
- B** Total revenue has increased for producers of both fresh fruit and fresh vegetables.
- C** Demand is price inelastic for both fresh fruit and fresh vegetables.
- D** There is a negative income elasticity of demand for fresh fruit and fresh vegetables.

Answer

Explanation

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**(Total for Question 24 = 4 marks)**

**25** The table below shows UK average weekly income and selected transport statistics 2002–2008.

<b>Year</b>	<b>2002</b>	<b>2008</b>
Average gross weekly household income (in real terms at 2002 prices)	£552	£604
<i>Billion passenger kilometres travelled by:</i>		
Cars and taxis	393	402
Buses and coaches	5.2	5.2
Bicycles	4.4	4.7
Rail	48	61

(Source: © Crown Copyright, adapted from Figures 8.3 and 17.3 in the Annual Abstract of Statistics and Social Trends 2010)

The data in the table suggest that over the period

(1)

- A** The income elasticity of demand for bus and coach travel is equal to 1.0.
- B** The income elasticity of demand for travel by bicycle is negative.
- C** The price elasticity of demand for rail travel is positive.
- D** The income elasticity of demand for travel by cars and taxis is positive.

Answer

Explanation

(3)

A series of horizontal dotted lines for writing an explanation.

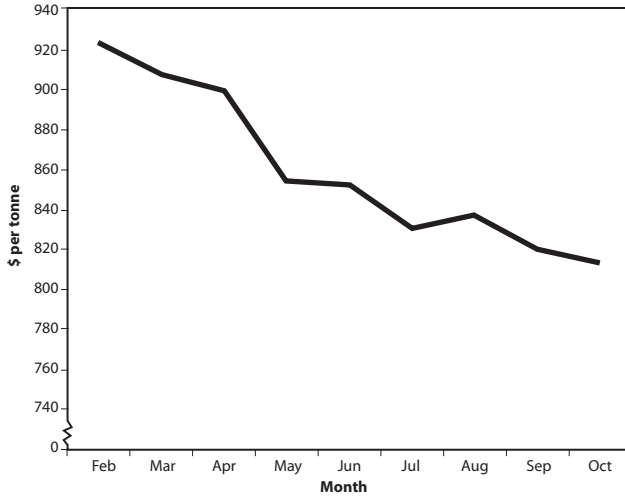
**(Total for Question 25 = 4 marks)**





27

World market price of bananas 2009



(Source: [www.indexmundi.com](http://www.indexmundi.com))

From the graph it can be deduced over the period that

(1)

- A the monthly total revenue for banana producers would have increased if demand was price inelastic
- B there is an excess demand for bananas
- C the monthly total revenue for banana producers would have decreased if demand was price inelastic
- D the trend in banana prices will encourage producers to increase output.

Answer

Explanation

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(Total for Question 27 = 4 marks)

**28** Jackie's income decreases from £2 000 to £1 800 per month. As a result, the number of times Jackie goes to the cinema decreases from twice to once per month. Her income elasticity of demand for cinema visits is:

(1)

**A** -0.5

**B** 0.5

**C** -5.0

**D** 5.0

Answer

Explanation

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**(Total for Question 28 = 4 marks)**

**29** Which of the following pairs of goods is likely to have a positive cross price elasticity of demand between them?

(1)

- A** Computer games consoles and computer games
- B** Lamb and wool
- C** Rail travel and private car use
- D** Bus travel and orange juice.

Answer

Explanation

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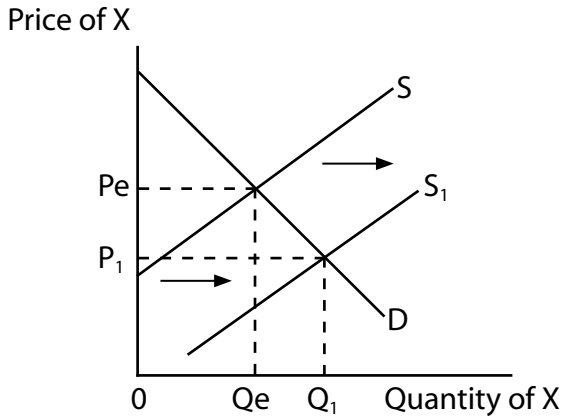
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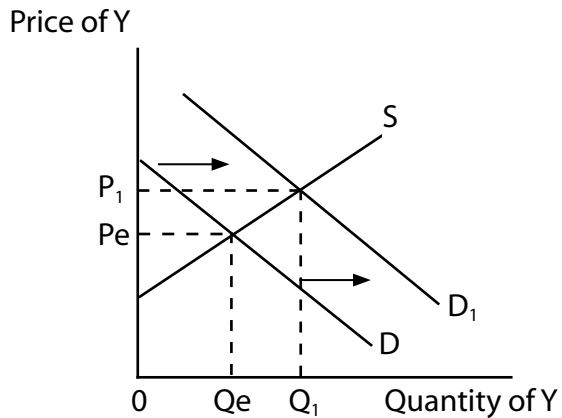
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**(Total for Question 29 = 4 marks)**

**30 Market for X**



**Market for Y**



The diagrams show the effects of an increase in supply of good X on the demand and price of good Y. Which of the following is most likely to be represented by good X and good Y?

(1)

- A Lamb and chicken
- B Bus travel and potatoes
- C Computer games consoles and computer games software
- D Leather and beef.

Answer

Explanation

(3)

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(Total for Question 30 = 4 marks)



32 The cross elasticity of demand for tea is likely to be

(1)

- A negative following a change in the price of milk
- B positive following an increase in income since tea is an inferior good
- C negative following a change in the price of coffee
- D positive following a decrease in income since tea is a normal good.

Answer

Explanation

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**(Total for Question 32 = 4 marks)**

**33 UK Household Expenditure (Index numbers 1971 = 100)**

<b>Year</b>	<b>1991</b>	<b>2005</b>	<b>% change</b>
Real household disposable income	170	239	+40.5%
Expenditure on food and soft drinks	117	147	
Expenditure on clothing and footwear	187	460	

(Source: Social Trends 37, 2007 edition)

It can be deduced that between 1991 and 2005:

(1)

- A** Food and soft drinks were inferior goods
- B** Income elasticity of demand for food and soft drinks was greater than +1.0
- C** Food and soft drinks had a positive cross elasticity of demand with respect to clothing and footwear
- D** Income elasticity of demand for clothing and footwear was greater than that for food and soft drinks

Answer

Explanation

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**(Total for Question 33 = 4 marks)**



**34** Which of the following goods are likely to have a positive cross elasticity of demand between them? (1)

- A** Motor vehicles and rail travel
- B** Beef and leather
- C** Motor vehicles and petrol
- D** Beef and animal feed

Answer

Explanation (3)

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(Total for Question 34 = 4 marks)





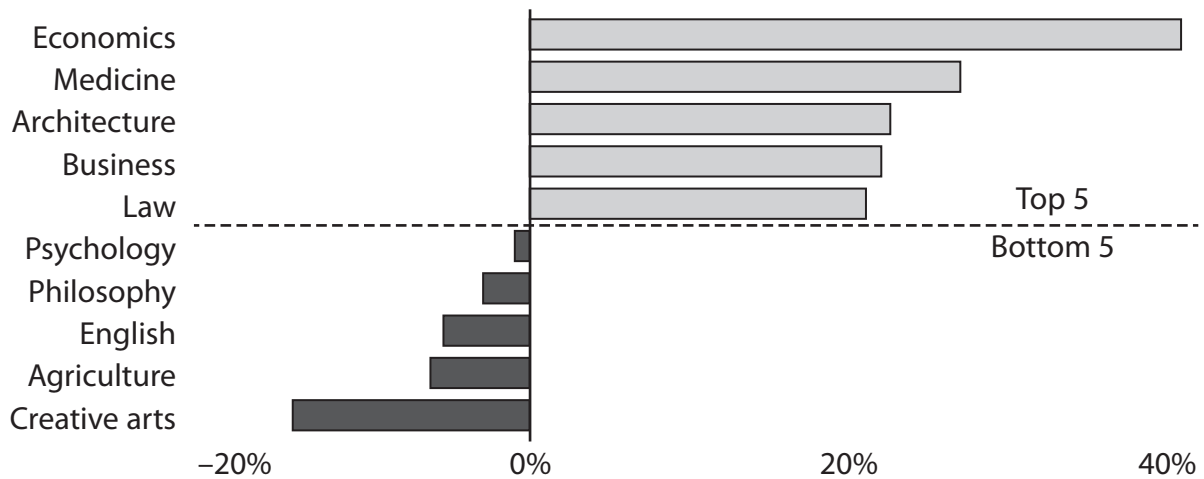
## SECTION B

Write your answers in the spaces provided.

### Question 37

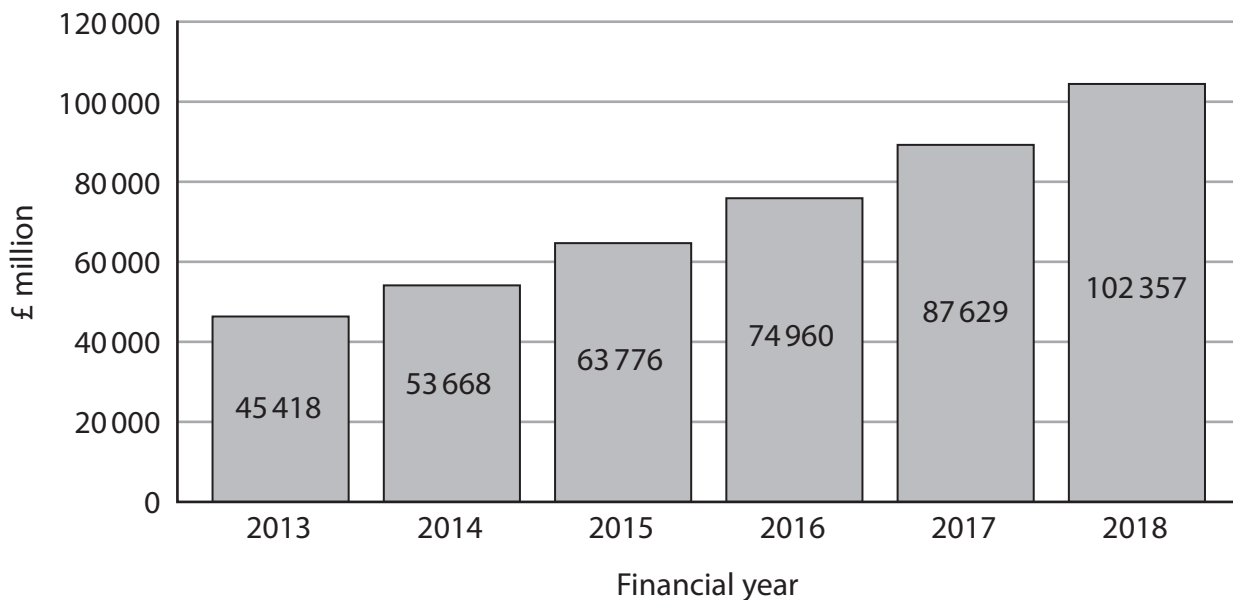
#### The market for higher education in the UK

**Figure 1: Average graduate earnings, according to subject studied, compared to average non-graduate earnings (per cent) 2018 selected subjects.**



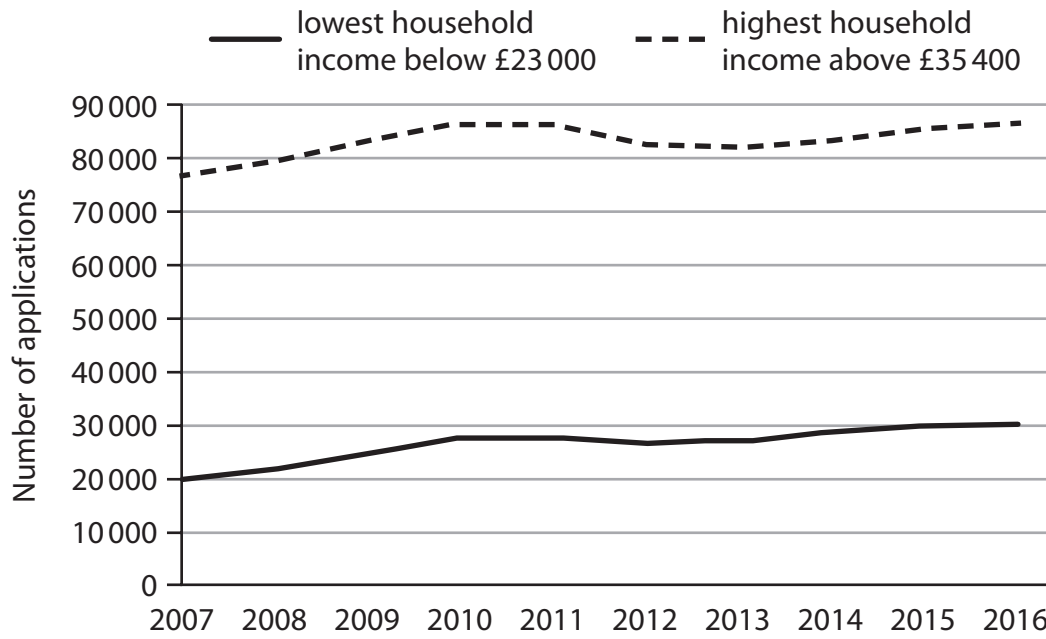
(Source: adapted from <https://www.ifs.org.uk/publications/13731>  
The impact of undergraduate degrees on early-career earnings, Research report, November 2018)

**Figure 2: Student loans outstanding at the end of financial years 2013 to 2018 in England**



(Source: adapted from <https://www.slc.co.uk/official-statistics/student-loans-debt-and-repayment/england.aspx>)

**Figure 3: Number of applications to UCAS according to median income of area**



(Source: adapted from <https://www.ucas.com/corporate/data-and-analysis/ucas-undergraduate-releases/2018-cycle-applicant-figures-january-deadline>)

## Extract A

### Rethinking tuition fees

The value of a degree is significant. The latest data shows that the median university graduate income was £10 000 more than the average non-graduate income in 2018. This 'graduate premium' means graduates will contribute significantly to the economy. In addition, the government will benefit greatly from additional tax revenues. 5

However, funding higher education continues to be a major issue. English universities charge some of the world's highest fees. Interest rates on student loans are now 6.3%. There are a large number of courses where graduates are likely to earn less than non-graduates, despite an average of £50 000 of debt.

The Department for Education estimates that 45% of the value of loans will not be repaid. Outstanding student loans in England totalled more than £100 billion in 2018. By 2023 total outstanding student loans are forecast to rise to £120 billion. 10

One option for revising student fees could be to charge higher fees for courses that are more expensive to teach or that have a better chance of higher earnings. That would make Science or Mathematics degrees more expensive to study than English or Philosophy. 15

At most universities the level of fees is likely to be the same flat rate of £9 250 per year. However, science-based courses need more expensive equipment and courses such as medicine require more teaching time and personal instruction.

Tuition fees were introduced in 1998 at £1 000 per year. They are currently £9 250. Economists estimate that the price elasticity of demand for higher education is about  $-0.5$ . 20

Charging £9 250 a year for an undergraduate degree makes England very expensive by international standards. Scotland has no fees for Scottish students, and fees in Wales and Northern Ireland are significantly lower. Much of Europe has low or no fees and Germany, which used to charge fees, has abolished them, replacing them with a graduate tax. 25

The only country with comparable fees is the United States. Top private colleges can charge more than the equivalent of £30 000 per year while state colleges can charge local students less than fees in England.

Despite this, student numbers at English universities have continued to increase from 450 000 in 1998 to over 700 000 in 2018. Students from all backgrounds are more likely to go to university than ever before. 30

However, applicants from low-income areas are much less likely to go to university than applicants from high-income areas. The Universities and Colleges Admissions Service (UCAS) found that in the most deprived 10% of postal areas about 20% of young people went to university in 2018, compared with 50% in the highest income areas. Research by University College London revealed that even when candidates from low-income areas had the same exam results, they were much less likely to apply to university than candidates from high-income areas. 35

(Source: adapted from <https://www.theguardian.com/education/2018/dec/16/change-in-student-loan-accounting-could-add-10bn-to-national-debt>)

## Extract B

### Low-income university students twice as likely to drop out than high-income ones

The number of students from low-income areas who drop out of university before finishing their degree is at its highest in five years, indicating a considerable waste of scarce educational resources. This news comes at the same time as a drive to recruit students from poorer backgrounds, with universities spending a total of £725 million on access initiatives in the past academic year alone. 5

A number of top universities have started to lower their A level grade offers to students from low-income areas, in an attempt to encourage them to apply. However, there is a danger with 'enticing' disadvantaged students through lower grade offers, if universities are not going to provide ongoing support for them once they begin their courses. 10

The latest figures show that 9% of disadvantaged undergraduates do not continue in higher education beyond their first year. In comparison, the average drop-out rate among students from the high-income backgrounds was less than 5%. The gap continues to widen.

A report, published by the Office for Fair Access, concluded that: 'The significance of this for students is huge. Higher education can be a transformational experience that opens doors to rewarding careers and social mobility, but this is only the case if students achieve successful outcomes.' 15

(Source: adapted from <https://www.telegraph.co.uk/news/2017/06/28/number-poor-students-dropping-university-highest-level-five/>)

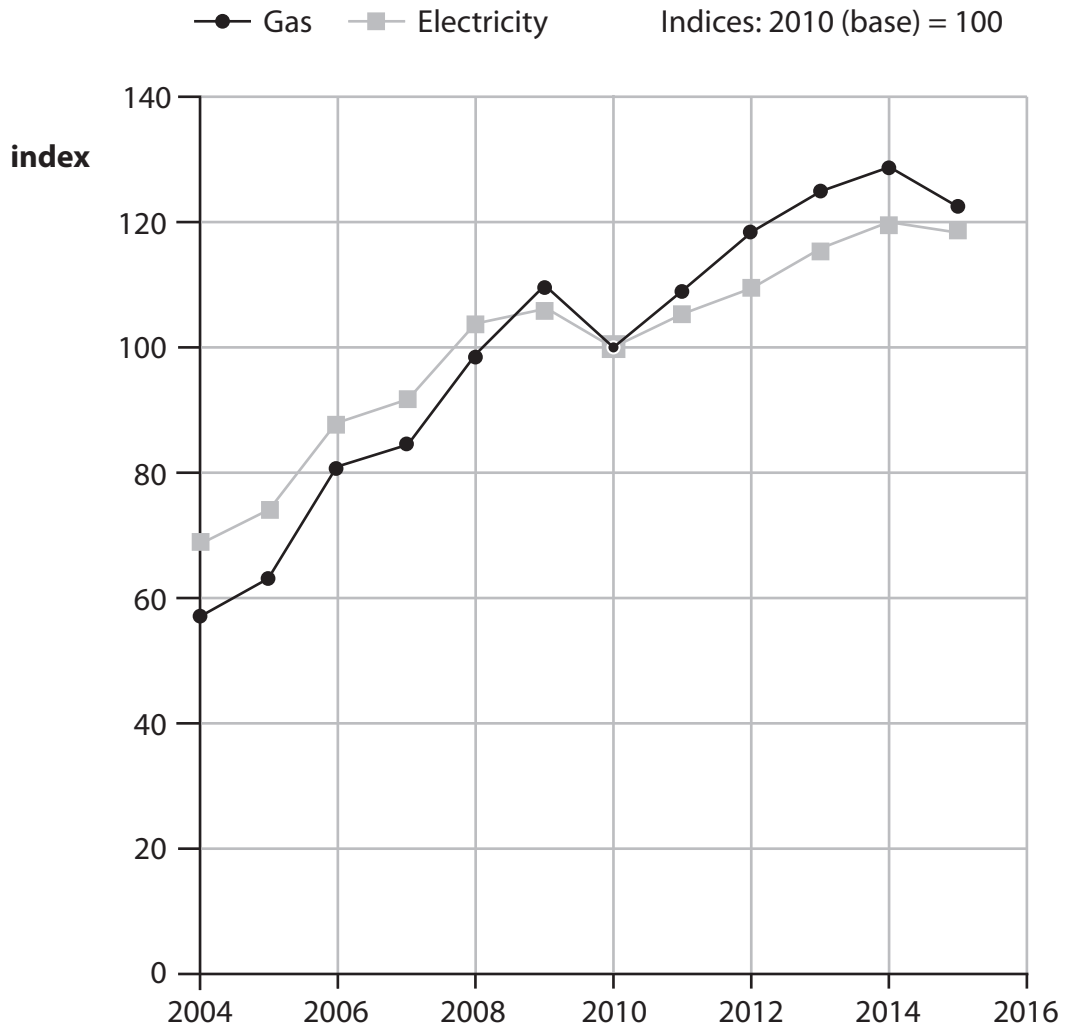




### Question 38

#### The UK energy market

Figure 1: UK retail electricity and gas real price indices, 2004–2015



(Source: <https://assets.publishing.service.gov.uk/media/5773de34e5274a0da3000113/final-report-energy-market-investigation.pdf>)

**Figure 2: UK retail electricity and gas supply: market share by company, 2016**

<b>Company</b>	<b>Electricity %</b>	<b>Gas %</b>
British Gas	23	36
EON	16	13
SSE	16	13
EDF	12	8
Scottish Power	11	9
RWE (nPower)	10	9
Other companies	12	12
<b>Total</b>	<b>100</b>	<b>100</b>

(Sources: <https://www.ofgem.gov.uk/chart/electricity-supply-market-shares-company-domestic-gb> and <https://www.ofgem.gov.uk/data-portal/retail-market-indicators>)

### **Extract A**

#### **Competition and Markets Authority (CMA) report into the UK energy market**

An investigation into the UK energy market by the CMA concluded that customers have been paying £1.4 billion a year more than they would in a fully competitive market. It found that 70% of domestic customers of the six largest energy firms were on an expensive standard rate. These customers could each save over £300 a year by switching to a cheaper deal but appear reluctant to do so. 5

However, the CMA investigation found no evidence of anti-competitive practices by firms. There has even been an increase in new entrant energy suppliers over recent years and their combined market share has reached 12% in both gas and electricity supply.

To protect consumers, the CMA has introduced various measures to open up and increase competition in the UK energy market. These include: 10

- the creation of a database designed to help consumers switch energy suppliers – rival suppliers can directly contact these customers
- the conversion of all homes to smart energy meters making it easier for customers to measure energy consumption and switch supplier 15
- new rules to protect the four million vulnerable customers using prepaid meters – this includes a temporary price cap until smart meters have been installed.

(Source: adapted from 'Competition and Markets Authority Final report into Energy Market Investigation' <https://www.gov.uk/government/news/cma-publishes-final-energy-report-in-full>)

## Extract B

### Proposals to regulate profits in the UK energy market

Currently energy retail companies make an average profit of 7% of total revenue. The Chairman of the Competition and Markets Authority (CMA) suggested that these profits are as much as five times higher than they should be, given the companies' limited role in marketing, metering and billing customers. He recommended a profit cap of 1.25% of total revenue. 5

However, Scottish Power criticised proposals for regulating profits saying that it would reduce investment in the energy industry and undermine long-term energy provision. The firm claimed that such a low rate of return is below the profit margin made by supermarkets. 10

All six large energy firms are vertically integrated – producing as well as distributing gas and electricity. This can provide efficiency benefits but also harm competition.

(Source: adapted from 'Profit cap doesn't fit with new investment, energy boss warns', by Robin Pagnamenta, *The Times*, 19th September 2016)

## Extract C

### Skills shortages in the UK energy sector

The energy sector is facing a skills shortage of engineers and technicians. Some 29% of employers in the gas and electricity industries report unfilled job vacancies compared with an average of 18% across all industries.

A lack of information and advice on career prospects for young people is partly to blame - many graduates have a negative image of the work involved. There is also a lack of students taking science, technology, engineering and maths-based subjects at school and university. Less than one-fifth of the energy sector's workforce are women. 5

The energy sector is characterised by an ageing workforce - data from the UK Labour Force Survey reveal that around two-thirds of workers are aged over 50. These cannot easily be replaced as a long time period is required for training and developing workers' skills in a highly regulated industry. 10

Urgent action is required by businesses and the government to reduce labour immobility to benefit the energy sector. This action could include policies to increase investment in training programmes, recruit skilled workers from overseas, change the industry image and deal with its ageing workforce. 15

(Source: adapted from 'Sector insights: skills and performance challenges in the energy sector', by the UK Commission for Employment and Skills, March 2015; [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/416998/15.03.25.\\_Energy\\_SLMI\\_-\\_evidence\\_report.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/416998/15.03.25._Energy_SLMI_-_evidence_report.pdf))



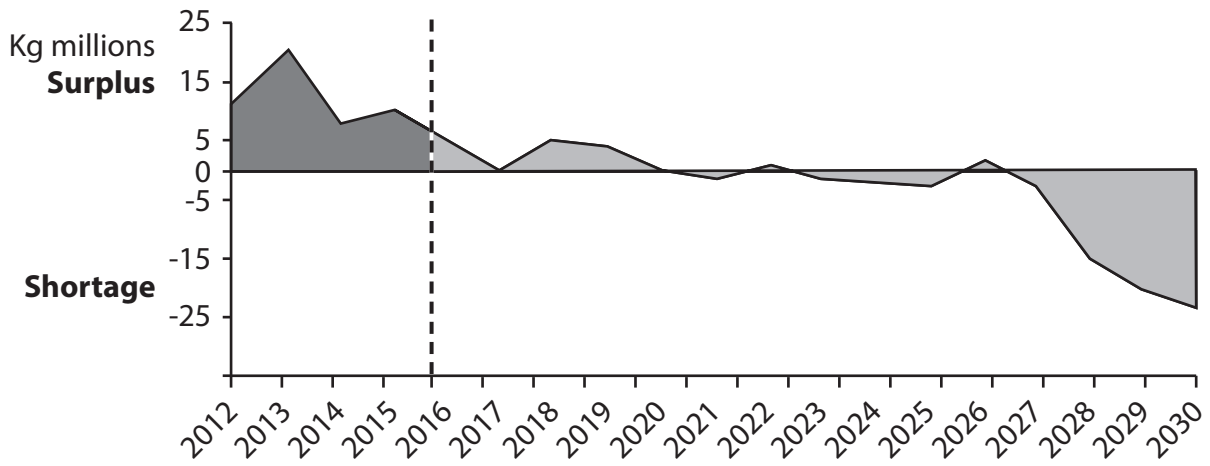
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**(Total for Question 38 = 8 marks)**

**Question 39**

**Energy markets**

**Figure 1: Annual surplus or shortage of uranium, measured in millions of kilograms**



Figures from 2016 are forecast

(Source: adapted from <http://www.telegraph.co.uk/business/2016/11/20/uranium-the-unloved-metal-whose-price-is-poised-to-go-radioactiv/>)

## Extract A

### Uranium: the unloved metal

Uranium is a fuel source for nuclear energy production. The price of uranium has fallen to a 13-year low. Uranium is a relatively common metal but locating it in the right concentrations can be difficult. Australia has the biggest known resource of uranium, followed by Kazakhstan. Kazakhstan's production has increased significantly since 2007, accounting for a large proportion of the surplus of this metal. Given the large stockpiles of uranium some firms have ceased production. 5

The biggest impact on the uranium market has been the devastating accident at the nuclear power station in Fukushima, Japan, in 2011. The accident caused a leak of radiation. The accident reduced confidence in the entire nuclear industry, as high doses of radiation leaks increase the risk of cancer. In addition the high cost of safely storing radioactive waste has delayed the building of new nuclear power stations. Japan initially closed all of its 50 nuclear power stations which reduced the demand for uranium. But it has since concluded that nuclear power must be part of its mix of energy suppliers. 10

Despite this setback in 2016 work started on a new uranium mine in Spain to meet the expected rise in demand for the metal. Uranium is a controlled material, so mining companies have to comply with many regulations before opening a new mine. When it opens in 2018, this will be the only uranium mine in Europe, producing 2.2 million kilos a year. It has been in development for more than a decade. 15

Most developed countries, with the notable exception of Germany, have concluded that nuclear power is an essential part of their energy supply. The US and UK are committed to building new nuclear power stations, the latter providing a £30 billion subsidy to build a new nuclear plant at Hinkley Point. China is also building a further 60 nuclear power stations. 20

Supporters of nuclear power say it provides a reliable source of energy at a time when the world's population is increasing, unlike solar power and wind power which both vary with the weather. In addition they argue that no country can significantly reduce carbon emissions, which are causing climate change, without nuclear. France and the UK have committed themselves to shut down all coal-fired power stations by 2025. So demand for uranium over the next two decades seems guaranteed. 25  
30

(Source: adapted from Uranium: the unloved metal whose price is poised to go radioactive, Jon Yeomans, The Telegraph, 20 November 2016  
<http://www.telegraph.co.uk/business/2016/11/20/uranium-the-unloved-metal-whose-price-is-poised-to-go-radioactiv/>)

## Extract B

### Irrational consumers pay the price

The UK Government has announced that it might introduce maximum price controls on energy used by households.

The UK's largest energy suppliers are braced for what could be the industry's most significant government intervention following a decade of rising energy bills and low numbers of consumers switching between energy providers. 5

The Prime Minister promised to intervene because the energy market is "manifestly not working" for consumers. Energy prices have risen by 158% in the last 15 years, and four million households, especially those on low incomes, are still on the most expensive energy rates. 10

Some energy analysts have warned the Government against taking a highly interventionist approach that could undermine the energy market and leave customers paying higher prices in the future.

(Source: adapted from <http://www.telegraph.co.uk/business/2017/03/22/governments-pledge-cut-energy-prices-risks-leaving-consumers/>)

## Extract C

### The economics of climate change

Rising carbon dioxide emissions result from the increase in the use of coal, gas and oil in transport and for energy production. In addition, deforestation, food production and processing methods make the problem worse. These carbon emissions are causing a rise in global average temperatures, known as climate change. Climate change could cause hundreds of millions of people to suffer hunger, water shortages and coastal flooding. 5

Three elements of policy are required for an effective global response to reduce carbon emissions. The first is the pricing of carbon, implemented through tax, trading pollution permits or regulation. The second policy is to support innovation and the deployment of low-carbon technologies. And the third is action to remove barriers to energy efficiency, and to inform, educate and persuade individuals about what they can do to respond to climate change. 10

(Source: adapted from [www.sternreview.org.uk/](http://www.sternreview.org.uk/))



**39** With reference to Extract A and your own knowledge, assess whether the supply of uranium is likely to be price elastic or price inelastic.

**(10)**

A series of horizontal dotted lines for writing the answer.

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**(Total for Question 39 = 10 marks)**

## Question 40

### The market for cigarettes

**Figure 1: Price elasticity of demand - a comparison between tobacco and e-cigarettes**

Price of packet of 20 tobacco cigarettes £7.70–£9.50	Price of e-cigarette kit £9.99–£19.99
Average price per tobacco cigarette 48p	Single cigarette equivalent price of an e-cigarette 7p
Price elasticity of demand for tobacco cigarettes -0.35	Price elasticity of demand for e-cigarettes -1.9

(Source: adapted from <https://www.blucigs.co.uk/united-kingdom/kits/all-kits>)

## Extract A

### Government intervention on tobacco

There was a time when smoking was fashionable. Television and magazine advertisements glorified smoking. Everyone from your dad to your doctor smoked in all places – cars, restaurants and even hospitals.

Tobacco is still the single biggest cause of cancer in the world and the leading cause of preventable deaths. Nearly 80% of the 1 billion smokers worldwide live in low- and middle-income countries. 5

Bans on tobacco advertising, promotion and sponsorship can reduce tobacco consumption. Comprehensive smoking bans covering indoor workplaces, public places and public transport have been introduced in 48 countries.

Tobacco taxes are the most cost-effective way to reduce tobacco use, especially among the young and people in low-income groups. A tax increase that raises tobacco prices by 10% decreases tobacco consumption by 4% in high-income countries and 5% in low- and middle-income countries. 10

However, some 8 million people are expected to die each year by 2030 – because they have smoked tobacco or have been exposed to passive smoking. The use of alternative products such as electronic cigarettes (e-cigarettes) are gaining in popularity but information about their effects is uncertain. Little research has yet been done about the long-term health effects of e-cigarettes and the nicotine dispensed by e-cigarettes is highly addictive. The illegal tobacco market still counts for 1 in every 10 cigarettes consumed globally. In addition, tobacco companies still spend tens of billions of dollars each year on advertising and promoting tobacco products and sponsoring events. They continuously challenge the regulatory measures governments are taking. 15  
20

(Source: adapted from <http://www.who.int/topics/tobacco/en/> and <http://www.who.int/mediacentre/commentaries/reducing-tobacco-use/en/>)

## Extract B

### Free market approach

Are free markets incompatible with good health? If the solution to every problem involves banning advertising, raising prices and restricting availability, you might easily conclude that the free market is the disease and government regulation is the cure. From this perspective, the providers of food, alcohol and tobacco are determined to push the most unhealthy products on the public at the lowest prices.

5

Contrary to this viewpoint, the profit motive is not unhealthy. Businesses have an obvious incentive to keep their customers alive and customers have a strong incentive to seek out healthier options. Any company that can make a scientifically sound health claim gains a competitive advantage over its rivals. Health sells. In contrast, government regulation can lead to negative health outcomes. Markets can correct themselves long before government failures are even acknowledged. Over a million Britons, almost all of whom are smokers or ex-smokers, use e-cigarettes, as a less hazardous product than cigarettes and yet e-cigarettes face increased regulations and in many countries they are banned.

10

It is neither consistent nor ethical to prevent smokers from switching to much safer alternatives. Efforts to regulate e-cigarettes are a far greater threat to public health than the products themselves.

15

We argue that the interests of consumers are nearly always better advanced by the provision of accurate information and free choice than by prohibitions and regulations. The government policy of small but steady tax rises on tobacco and ever-larger warning labels is becoming less effective and leads to unintended consequences.

20

(Source: adapted from <http://www.iea.org.uk/blog/free-market-solutions-in-health-should-be-allowed-to-flourish>, Christopher Snowden, 11th July 2013)







(c) With reference to Figure 1, assess the likely reasons for the difference in price elasticity of demand for tobacco cigarettes and e-cigarettes.

(15)

A series of horizontal dotted lines for writing the answer.

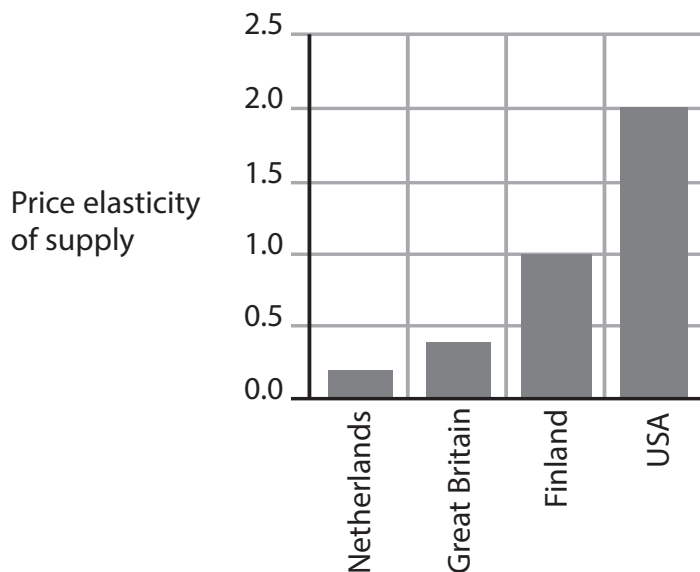
Handwriting practice area with 25 horizontal dotted lines.

**(Total for Question 40 = 25 marks)**

## Question 41

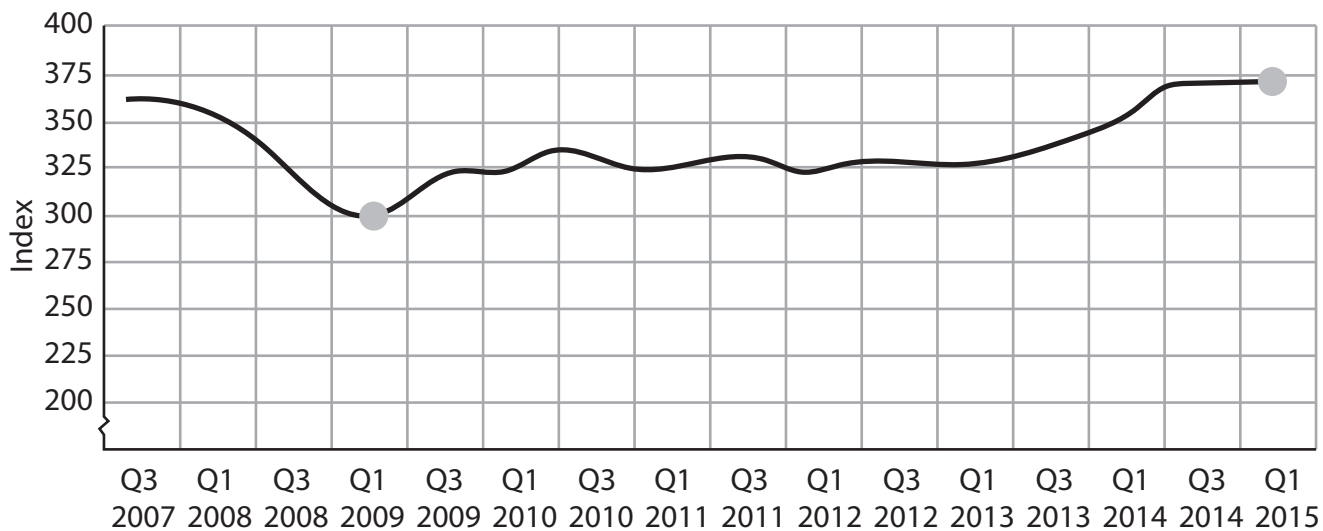
### The market for housing

Figure 1 – Estimates of the price elasticity of supply of new housing, selected countries



(Source: adapted from Caldera Sánchez, A. and Å. Johansson (2011), "The Price Responsiveness of Housing Supply in OECD Countries", Figure 3, OECD Economics Department Working Papers, No. 837, OECD Publishing. <http://dx.doi.org/10.1787/5kgk9qhrnn33-en>)

Figure 2 – Index of UK house prices (1993 = 100)



(Source: <http://www.nationwide.co.uk/about/house-price-index/download-data#~>)

## Extract A

### Problems facing UK first time buyers

Over a third of aspiring first time buyers in the UK have given up hope of ever being able to save for a deposit to buy a property, new research has found. A deposit is the minimum amount that must be paid upfront when buying a property, which is a proportion of the price of the property.

The UK Government has a Help to Buy scheme designed to help people buy a home. The government subsidises the mortgage (loan) needed to buy a property, so buyers require a smaller amount saved as a deposit. Under this scheme, first time buyers need as little as a 5% deposit to qualify for a mortgage. This is due to end in the first few months of 2017. The research from mortgage insurer Genworth says this will mean a return to 20% deposits, which would see the average time needed to save for a deposit rise from three years to over 10 years. 5 10

“Trying to buy your first home in the current climate is like chasing a runaway train. Even with good salaries that could comfortably support a mortgage, thousands of aspiring first time buyers can only save modest sums, especially those who are already paying rent. This deposit trap is why many feel they are left with the all or nothing choice of borrowing from family or waving goodbye to ever owning a home,” said Simon Crone, a vice president at Genworth. 15

“Help to Buy has significantly improved access to mortgages with deposits that are actually realistic to save. The numbers using the scheme may be modest, but it has made significant inroads in the short-term to boost access at the lower end of the property market,” he pointed out. 20

(Source: adapted from <http://www.propertywire.com/news/europe/uk-first-time-buyers-201409309641.html> September 2014)

## Extract B

### Housing and flood defences

A radical new approach to housing and a £2.3 billion of investment in flood defences were announced as part of the UK Government’s new National Infrastructure Plan 2014.

One key proposal is for the government to plan, build and sell homes. An initial programme on a government-owned former airfield near Cambridge will see the development of 10 000 homes. This approach will fast track the development by providing certainty and making new homes available more quickly. 5

The government will make the initial investment but expects that later costs will be met through the sale of land and homes. It will also evaluate the feasibility and economic effects of rolling out this model on a wider scale, to support and accelerate housing supply. 10

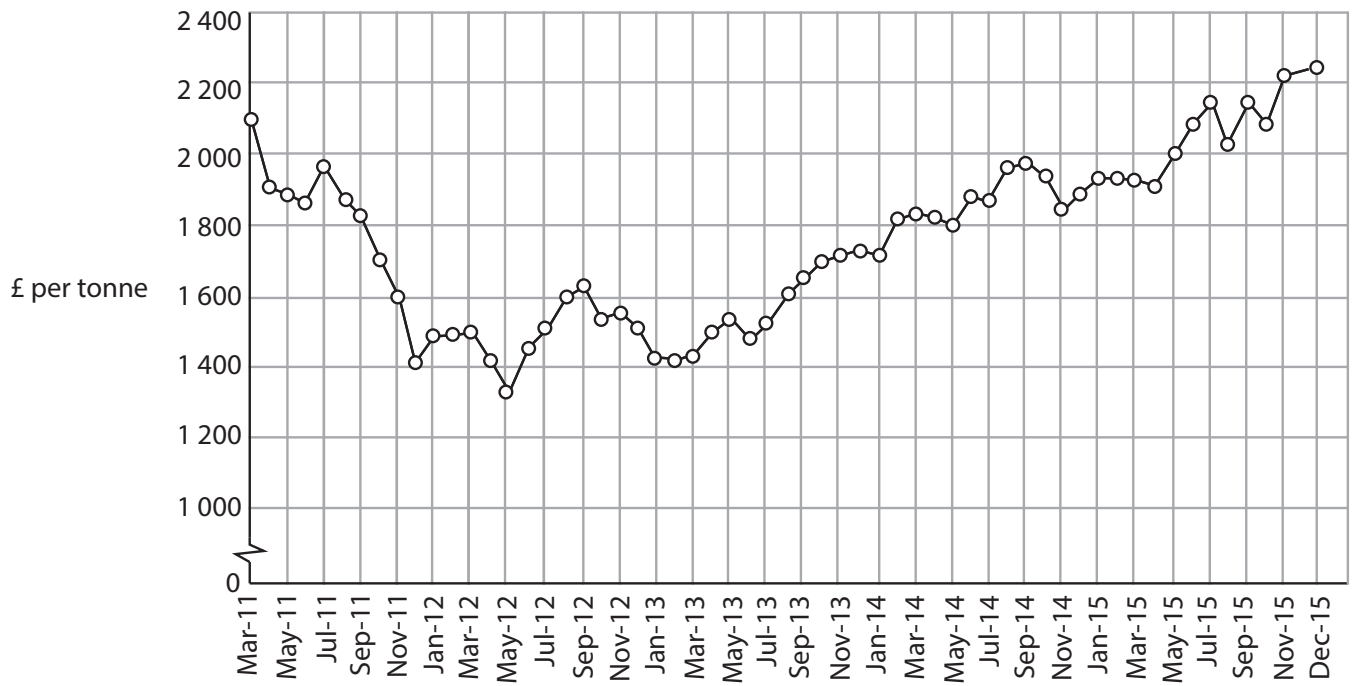
The plan also commits to £2.3 billion of capital investment to over 1400 flood defence projects in a 6-year programme of investment. As a result, over 300 000 homes will be better protected and over £30 billion of economic damages prevented. Major projects that will benefit include £42 million for the Oxford Flood Alleviation Scheme, £80 million for the Humber Estuary and over £17 million for Tonbridge, Yalding and the surrounding communities. 15

(Source: adapted from <https://www.gov.uk/government/news/ambitious-plans-for-housing-flood-defence-and-roads-set-out-in-national-infrastructure-plan-2014>)



## 42 The price of cocoa

Figure 1 Cocoa prices, March 2011 – December 2015



(Source: <http://www.indexmundi.com/commodities/?commodity=cocoa-beans&months=60&currency=gbp>)

### Extract 1 Fluctuations in cocoa prices

The price of cocoa has risen to record levels following poor harvests in West Africa. Between November 2014 and December 2015 cocoa prices increased from £1 840 to £2 230 per tonne. Strong winds from the El Nino weather effect led to drought conditions damaging the cocoa crop. Traders have also purchased extra cocoa in advance for fears of a shortage next year, raising prices further according to Edward George at Ecobank, a major African bank. 5

Three quarters of global production remains concentrated in just a few West African countries such as Ivory Coast, the world's biggest producer. Cocoa trees take five years to grow to maturity and the availability of suitable land for expansion is severely limited. 10

Cocoa is subject to enormous price fluctuations. This creates instability in income, employment and investment among cocoa farmers. The governments of West Africa are considering a buffer stock scheme which aims to adjust supply between good and poor harvests to stabilise the cocoa market. However, such a scheme failed some thirty years ago because of funding problems and difficulties in organising the thousands of cocoa farmers. 15

(Source: adapted from 'El Nino pushes up price of chocolate', Robin Pagnamenta, *The Times*, 30 November 2015)

### Extract 2 Chocolate prices set to rise

Cocoa is a key ingredient in making chocolate products. The increase in cocoa prices is almost certain to lead to a rise in the price of premium brands of chocolate such as Godiva and Lindt, which contain high levels of cocoa. However, for standard chocolate brands such as Mars and Cadbury, higher cocoa prices may have little impact on the price of chocolate bars. The producers may seek to avoid raising prices by reducing the size of the chocolate bars or altering the ingredients. 5

In the long term, as emerging markets continue to grow, demand for cocoa from China and India is likely to increase. Consumers in these countries are developing a strong taste for chocolate.

(Source: adapted from 'El Nino pushes up price of chocolate', Robin Pagnamenta, *The Times*, 30 November 2015)





## 43 Bottled water

**Figure 1 UK bottled water market**

Year	Consumption (million litres)	Sales revenue (£ million)
2008	1 970	1 380
2009	2 010	1 400
2010	2 020	1 420
2011	2 070	1 500
2012	2 140	1 570
2013	2 360	1 770
2014	2 580	1 960

(Source: [http://www.britishsoftdrinks.com/write/MediaUploads/Publications/BSDA\\_Annual\\_Report\\_2015.pdf](http://www.britishsoftdrinks.com/write/MediaUploads/Publications/BSDA_Annual_Report_2015.pdf))

### **Extract 1 Growth in UK bottled water sales**

The consumption of bottled water has continued to grow at a time of falling demand for other types of soft drink such as fruit juices, smoothies and fizzy colas. The growth in demand for bottled water reflects successful promotions and more people trying to follow healthier lifestyles.

The potential for further growth is very positive: annual bottled water consumption per head in the UK is 41 litres, which is far below the West European average of 119 litres. 5

The recycling of bottles and cans has increased rapidly over the past decade; many containers are now produced with 25–50% recycled materials. Of the bottled water consumed in the UK around 73% is bottled in the UK, including most supermarket own brand water. 15% comes from France, including premium brands such as Badoit and Perrier. 10

(Source: adapted from [www.britishsoftdrinks.com/PDF/2013UKsoftdrinksreport](http://www.britishsoftdrinks.com/PDF/2013UKsoftdrinksreport))

## Extract 2 Environmental damage from bottled water

Water is a precious resource. Governments should ensure the sustainability of safe water supplies for the benefit of all people and the natural environment.

The use of bottled water is harmful to the environment. Three litres of water are used directly or indirectly in the production of one litre of bottled water. The majority of bottles are made of plastic and end up in landfill sites rather than being recycled. 5

Furthermore, vast amounts of plastic waste never reach the recycling plants but end up in the oceans, killing fish and birds who mistake it for food. It takes up to a thousand years for plastic to decompose and so the problem is set to get worse.

Bottled water is often transported hundreds of miles from its origin to shops and consumers, at considerable carbon cost. By contrast, tap water only takes a little energy to pump along pipelines into homes. 10

Bottled water is also expensive and consumers can pay anything up to 10 000 times more than if they just drank tap water. Studies have shown that tap water is generally just as clean and healthy as bottled water, if not more so. Furthermore, over half of the bottled water in the UK comes from purified tap water. It is time for the UK Government to intervene by increasing the indirect tax on bottled water. 15

(Source: adapted from <http://www.guardian.co.uk/commentisfree/2007/jul/10/timetocapbottledwater?INTCMP=SRCH> and [http://www.sierraclub.org/committees/cac/water/bottled\\_water/bottled\\_water.pdf](http://www.sierraclub.org/committees/cac/water/bottled_water/bottled_water.pdf))

**43** Assess whether the demand for bottled water is likely to be price elastic or price inelastic.

(10)

A series of horizontal dotted lines for writing the answer.

(Total for Question 43 = 10 marks)

#### 44 The UK Housing Market

**Figure 1 Annual percentage increase in share prices of the seven largest house builders (to November 2013)**

<b>Company</b>	<b>% change</b>
Berkeley Group	29.6
Bovis Homes	33.8
Bellway	43.5
Redrow	58.4
Taylor-Wimpey	59.5
Barratt Developments	60.1
Persimmon	63.3

(Source: Financial Times, 1 November 2013)

**Figure 2 Average house prices, annual earnings and unemployment rates by selected regions in UK, 2013**

<b>Region</b>	<b>Average house price</b>	<b>Average annual earnings</b>	<b>Unemployment rate (%)</b>
North East	£149 000	£25 584	10.4
Yorks and Humber	£167 000	£25 572	8.9
North West	£166 000	£26 416	8.3
West Midlands	£188 000	£26 936	9.8
East of England	£257 000	£31 096	6.7
South East	£304 000	£35 552	5.8
London	£437 000	£39 312	8.3
UK	£247 000	£29 536	7.7

(Sources: [http://www.ons.gov.uk/ons/dcp171778\\_286243.pdf](http://www.ons.gov.uk/ons/dcp171778_286243.pdf) <http://www.ons.gov.uk/ons/search/index.html?newquery=weekly+region+earnings>)

### **Extract 1 Rising house prices**

Average house prices in the UK reached their highest level ever at £247 000 in August 2013, exceeding the previous peak in January 2008. In the 12 months to August 2013 UK house prices rose by 3.8%. However, many regional variations were recorded with the highest increase in London. The rise of 8.7% in London prices was largely a result of increased purchases from foreign buyers.

5

The rise in house prices follows a sustained period of low interest rates for borrowers as well as the success of the government's 'Help to Buy' scheme. This scheme enables buyers of new-build homes to borrow up to 95% of the house value. In October 2013, it was extended to include borrowing on all types of properties up to the value of £600 000. Banks are more willing to lend as the government guarantees up to 15% of the house loan as an insurance policy in case of borrowers being unable to repay.

10

(Source: adapted from 'Home-buying at its highest for five years', Juliet Samuel, The Times, 11 October 2013)

### **Extract 2 Supply constraints in house building**

Capacity constraints have affected house building over recent months according to a Bank of England report, providing evidence of growing demand and rising prices in the sector. Skills shortages have appeared after many building workers left the industry during the recession. Delivery time for bricks and other construction materials have also increased, forcing firms to look to imports. Brick-making firms are reluctant to invest in new kilns without the assurance of a continuous supply of reasonably priced energy.

5

However, the Home Builders Federation pointed out that suppliers have responded to short term pressures through increased training schemes and also gave examples of brick makers re-opening plants.

(Source: adapted from 'House builders provide blot on improved landscape', Patrick Hosking and Kathryn Hopkins, The Times, 24 October, 2013)

### **Extract 3 Buildings are key to tackling carbon emissions**

Any serious attempt to tackle climate change must deal with the problem of poorly insulated buildings. More than 40% of carbon emissions in developed countries come from heating, cooling and providing power to homes and offices. Cutting emissions from UK buildings by just 25% would have the same impact as taking every car off the road.

Carbon emissions can be significantly reduced through better insulation, more efficient heating boilers and triple glazing of windows for new build and existing homes. The initial costs of implementing energy efficiency schemes are high. However, reductions in gas and electricity bills mean that energy efficiency work can pay for itself in as little as five years.

5

(Source: adapted from 'Buildings are key to tackling emissions', David Fickling, Financial Times, 25 November 2009)

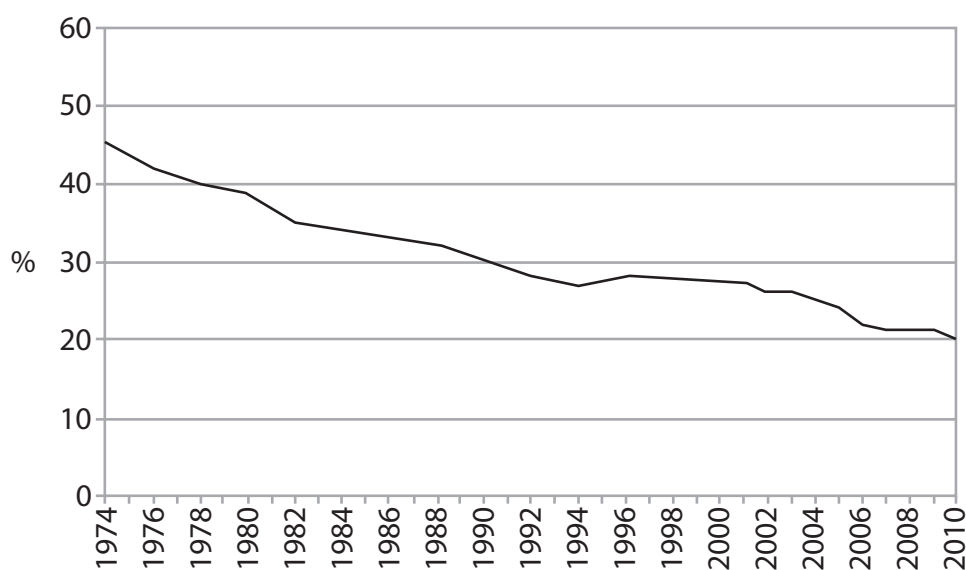






## 45 Tobacco consumption in Britain

**Figure 1 Percentage of adults in Great Britain who smoke cigarettes, 1974–2010**



(Source: © Crown copyright)

**Figure 2 The estimated costs of tobacco smoking in Britain**

Type of cost	£ billion per year
National Health Service	2.7
Loss of productivity from smoking breaks at work	2.9
Staff absence from work owing to tobacco-related illnesses	2.5
Cleaning up tobacco litter	0.3
House fires from tobacco smoking	0.5
Loss of output from early death of smokers	4.1
Loss of output from early death of passive smokers	0.7
Total	13.7

(Source: © ASH)

### **Extract 1 The decline of tobacco smoking in Britain**

Tobacco smoking has fallen over the past fifty years following government health campaigns warning people of its dangers and greater regulations on its sale and consumption. Higher taxes on cigarettes have also contributed to the decline in smoking. The tax on tobacco now accounts for 80% of the £7.45 price paid for a premium packet of cigarettes.

5

The leading anti-smoking pressure group ASH, believes it will take a further fifty years to eliminate smoking in Britain. ASH claims that up to two-thirds of lifelong smokers are eventually killed by their habit.

(Source: © ASH)

### **Extract 2 Tobacco taxation**

In the 2012 Budget the Chancellor George Osborne increased the tax on tobacco by 5 percentage points above the rate of inflation (known as the tobacco tax escalator). This added 37 pence to the price of a packet of cigarettes. The government received £12.1 billion in revenue from indirect taxes on tobacco in 2012.

Despite price increases on tobacco contributing to a fall in its demand, total expenditure has risen (including the tax receipts). For example, consumer expenditure on tobacco increased from £15.1 billion in 2010 to £15.3 billion in 2011.

5

Tobacco consumption among 11–15-year-old children has not changed over the past five years with 5% being regular smokers. Tobacco smoking also remains much higher for low income workers in manual occupations (29%) compared to higher income workers in professional and managerial occupations (13%).

10

There has also been a significant switch in tobacco sales, from high quality, expensive brands to low quality and cheap cigarettes. The latter now account for 30% of the British market.

(Source: © ASH)

### **Extract 3 Tobacco smuggling and government regulations**

Around 20% of all tobacco smoked in the UK is smuggled into the country and the government loses more than £2 billion a year in potential tax revenue. High tobacco taxes are blamed for creating the illegal trade. The trade is dominated by criminal gangs who can import into the country more than 10 million cigarettes in just one lorry container load.

5

However, some of the highest levels of smuggling were found in Spain and Italy, two countries with the lowest tax rates on tobacco.

There has also been an increase in the manufacture of counterfeit tobacco products. Many counterfeit cigarettes are hard to distinguish from genuine brands and often consist of even more harmful chemical compounds. Government plans to force tobacco companies to use plain packaging may make it easier to produce counterfeit cigarettes.

10

A government smoking ban imposed on enclosed public spaces since 2007 has coincided with more than 1 500 pubs and bars closing down each year.

(Source: © ASH)

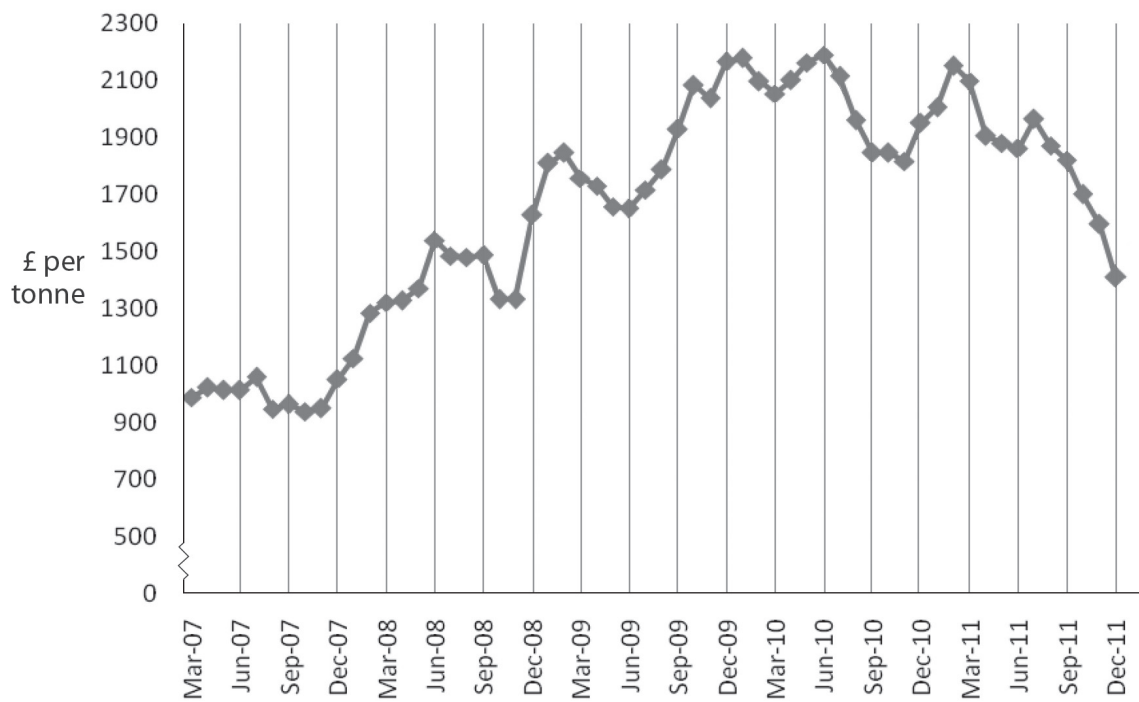


Handwriting practice area with 20 horizontal dotted lines.

**(Total for Question 45 = 10 marks)**

## 46 The price of cocoa

Figure 1 Cocoa prices, March 2007 – December 2011



(Source: © U.S. Department of Agriculture)

### Extract 1 Unstable cocoa prices

The price of cocoa fell sharply from £2 153 to £1 410 per tonne between February and December 2011. This follows a decrease in consumption from Europe - the world's largest consumer of the commodity - amid fears that it was entering a recession. At the same time there was a very good cocoa harvest in the Ivory Coast, the world's biggest producer, which supplies around 40% of global output. 5

The supply of cocoa in 2012 is set to exceed demand by a record 400 000 tonnes, adding to producer stockpiles. There are fears that farmers will abandon looking after their cocoa trees, which take five years to grow to maturity, and switch to growing rubber. However, rubber prices have also decreased in recent years.

Cocoa is subject to enormous price fluctuations: in June 2010 its price reached £2 190 a tonne. This was the highest price for 33 years, resulting from a disappointing crop caused by poor weather, ageing trees and a temporary export ban imposed by the newly elected President of the Ivory Coast. Price fluctuations create instability in income, employment and investment among cocoa farmers. 10

To reduce the damaging effects of fluctuating cocoa prices, the Ivory Coast government has introduced a guaranteed minimum price scheme to support farmers. The success of this scheme will depend partly on the response of international cocoa buyers and whether or not they will seek to purchase from other major producers such as Ghana and Nigeria. 15

In the long term, as the emerging markets continue to grow, demand for cocoa from China and India is likely to increase. Consumers in these countries are developing a strong taste for chocolate. Cocoa is a key ingredient in making chocolate products such as Cadbury's Dairy Milk bar and Nestlé's Kit Kat bar. However, it only forms around 6% of the price of a bar of chocolate. 20

(Source: adapted from 'Euro debt crisis bites into cocoa' by Emiko Terazono, © The Financial Times Ltd, 5th December 2011 and <http://www.traidcraft.co.uk>)





## 47 The proposed expansion of Heathrow Airport

### Extract 1 Should a third runway be built at Heathrow Airport?

London Heathrow is the world's third busiest airport and a major hub for the global economy. In 2011 it handled more than 476 000 flights and some 65 million passengers. However, the airport is operating at 99.2% of its capacity, making it vulnerable to any disruption. There is a shortage of runway capacity to meet the forecast increase in passenger demand of 15 million using Heathrow Airport by 2020.

5

Research by a business consultancy claims that Britain could lose out on an extra 140 000 jobs if capacity at Heathrow is not increased in the medium term. It estimates that £4.5 billion will be lost from Gross Domestic Product because of falling foreign investment, as businesses consider locating elsewhere in Europe, and £1.6 billion lost in trade with emerging markets by 2020.

10

However, a third runway at Heathrow would lead to a significant increase in external costs from the extra 900 flights per day over London. Expansion at Heathrow might be unnecessary as almost a quarter of flights are to destinations less than 300 miles away and already well served by train. Domestic flights and short flights to Europe could easily be carried out by train, especially with the continued expansion of Eurostar rail services to many more European cities. Substituting these flights for train services would reduce the need for extra capacity at Heathrow and have significant environmental benefits, as train travel creates one tenth of the pollution per passenger compared to air travel.

15

An alternative might be to develop other airports around London such as Gatwick, Stansted and Luton where significant spare capacity exists. In the long run a new super-sized airport in the Thames estuary might provide the best solution although the financial cost is expected to exceed £50 billion and take at least 15 years to build after planning permission has been received.

20

(Source: adapted from © Guardian News and Media Ltd, 2012 and © Greenpeace, 10 Reasons to Stop Heathrow Expansion (<http://www.greenpeace.org.uk/blog/climate/10-reasons-to-stop-heathrow-expansion>))

**Figure 1: Estimates of price elasticity and income elasticity of demand for UK air travel**

Air travel	Price elasticity of demand	Income elasticity of demand
UK business passengers	-0.2	1.2
UK leisure passengers	-0.7	1.4

(Source: © Crown copyright)

**Figure 2: Air Passenger Duty (APD) rate from April 2012**

Flight distance (miles)	Economy class (tax per passenger)	Other travel classes, e.g. business class (tax per passenger)
0–2000	£13	£26
2001–4000	£65	£130
4001–6000	£81	£162
Over 6000	£92	£184

The APD is an indirect tax introduced in 2006 and is charged to airlines carrying passengers from UK airports. Between 2010 and 2011 APD remained the same. In April 2012 the government increased APD by 8%.

(Source: © Crown copyright)

(a) With reference to Figure 1, discuss why business and leisure air travel passengers have different price elasticities of demand.

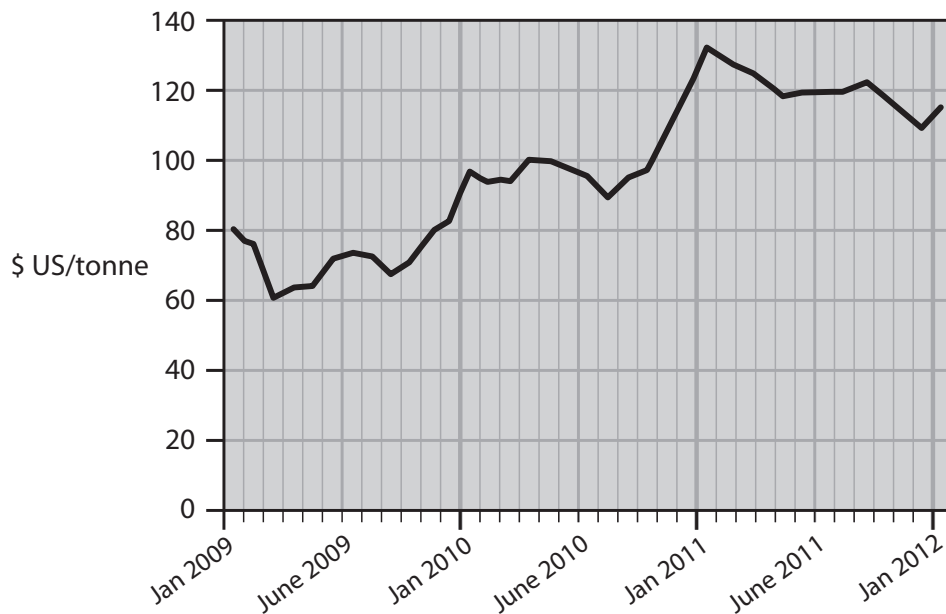
(6)

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## 48 The price of coal

**Figure 1: The rising price of Australian coal**



(Source: © Worldbank.org)

### **Extract 1 Floods hit Australian supply of coal**

Severe floods have damaged many of Australia's coal mines and railway lines, dramatically reducing the production and transportation of coal and increasing its price by up to 35% per tonne from November 2010 to January 2011. A vast area has been affected by the floods and the cost of pumping out the water and repairing the mines could run into hundreds of millions of dollars. The floods have also led to an increase in speculative buying of coal by stock market traders anticipating shortages.

5

Despite the higher price of coal and reduced output, the revenues of the big Australian coal producers have remained the same.

The increase in coal prices is expected to put pressure on electricity prices over the coming months. The UK generates about one quarter of its electricity by burning coal, much of which is imported from overseas, including Australia.

10

(Source: adapted from © Times Newspapers Limited, 5th January 2011)

## Extract 2 Carbon emissions trading scheme in Australia

Around 500 of Australia's biggest polluting companies will be forced into an emissions trading scheme in 2015, similar to that operating in the European Union. The Australian Government intends to achieve a 5% cut in carbon emissions by 2020.

Although Australia accounts for just 1.5% of global greenhouse gas emissions, its heavy reliance on coal fired power stations makes it one of the world's biggest carbon polluters per head of population. It is also the world's biggest exporter of coal. 5

Initially, the companies in the scheme will receive 94.5% of their carbon permits for free, and then obtain government subsidies to purchase the other 5.5% of permits, so that no additional costs to the firms arise. Gradually over time, these subsidies will be removed. Emissions trading schemes have also attracted interest from China and South Korea. 10

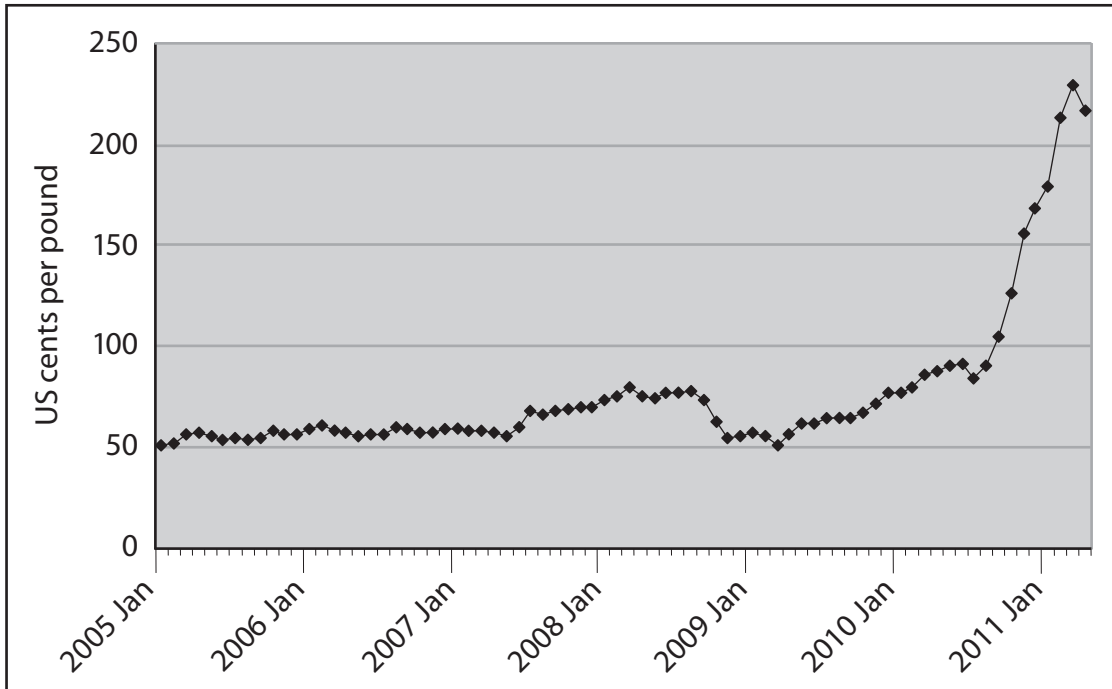
However, the scheme is a blow to the Australian mining industry which faces carbon costs of at least 25 billion Australian dollars by 2020. According to Anglo American Corporation, some 40 000 jobs are directly at risk and a further 100 000 indirectly. It also believes some mining investment projects will be cancelled, adding further to structural unemployment. Government training programmes and relocation subsidies may be required to improve the mobility of labour. 15

(Source: adapted from © *The Financial Times*, 10th July 2011 and 8th November 2011)



## 49 The price of cotton

**Figure 1: Cotton prices 2005-2011** (US cents per pound in weight)



(Source: World Economic Outlook Database © 2011 International Monetary Fund)

### Extract 1 Rising cotton prices

The price of cotton more than doubled in 2010 after crops in China and Pakistan were hit by floods. This was made worse by the Indian Government's ban on cotton exports. World supply of cotton fell from 107 million bales in 2009 to 101 million bales in 2010. A bale of cotton weighs 500 pounds and can make 1200 t-shirts. Stocks of cotton are at their lowest level for five years. At the same time, speculators have bought up large quantities of cotton in the hope of making profits.

5

Farmers have responded to rising prices by devoting more land to cotton. In the right conditions, cotton crops take 100 days to reach maturity. World supply is forecast to increase to 117 million bales in 2011.

Cotton is the most important textile for making clothing. However, demand for synthetic materials is increasing as manufacturers look for alternatives.

10

(Source: adapted from 'Cotton price rise will hit clothing warns Next', James Hall, The Telegraph, 4th November 2010 © Copyright Telegraph Media Group Limited 2010)



## **Extract 2 The impact of rising cotton prices on clothing retail stores**

Lord Wolfson, chief executive of retail clothing store Next, warned that the soaring price of cotton could lead to clothing prices rising by almost 10% in 2011. The retailer, which has more than 500 stores and 2.6 million online and catalogue shoppers, blamed 'what appears to be a speculative bubble' for the expected price rises.

Lord Wolfson stated that 'we have not seen clothing prices rise for nearly twenty years, so it's going to be very difficult to know how consumers will respond to a price increase'. Other stores such as Debenhams and Marks & Spencer also predicted higher clothing prices in 2011. Previously, prices had been kept down by firms relocating production facilities to Asia. 5

Next's share price in November 2010 was more than 20% higher than in November 2009. This reflected a successful diversification into home furnishings such as cushions, curtains and furniture. However, analyst Katharine Wynne, at Investec, cut her full-year profit forecasts for Next from £560m to £542m and cancelled her 'buy' recommendation on the retailer's shares. 10

(Source: adapted from 'Next forecasts 10% rise in clothes prices', Julia Finch, The Guardian, 4th November 2010 © Guardian News & Media Ltd 2010)

## **Extract 3 Genetically modified (GM) cotton farming in India**

The use of genetically modified cotton seed is widespread in India. It is used to prevent disease, increase crop yields and used to kill the pink bollworm, a mite which eats cotton seed. However, in 2009, scientists found that the bollworm had developed resistance to the modified version of the seed.

Consequently, the anticipated increase in crop yields has not materialised. However, the costs to farmers of buying and using GM seeds have increased – they require more fertiliser and twice as much water compared to traditional seeds. Farmers are not allowed to harvest seeds for the next crop but are forced to buy fresh supplies from Monsanto, the producer of this GM seed. There is now a genuine fear of a lack of bio-diversity resulting from the use of GM crops. 5 10

(Source: adapted from 'Monsanto and Indian Farmer suicides', by Ralph Stone, © The Berkley Daily Planet, 6th December 2010.)

(a) Referring to cross elasticity of demand, explain the likely relationship between the price of cotton and the demand for synthetic materials used in making clothing (Extract 1, lines 10–11).

(4)

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(b) With reference to Extract 1, discuss the factors that are likely to influence the price elasticity of supply of cotton.

(10)

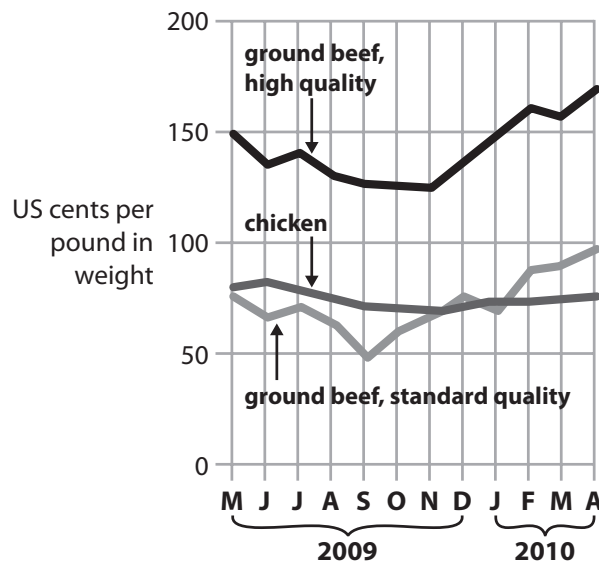
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Handwriting practice area with 20 horizontal dotted lines.

**(Total for Question 49 = 14 marks)**

## 50 The price of beef

Figure 1 The price of beef and chicken for fast food restaurants 2009 – 2010



### Extract 1 Rising price of beef

It is **not** a happy time in American fast food restaurants. Rising beef prices have reduced profit margins at the McDonalds, Burger King and Wendy chains. They have found it difficult to pass on higher beef prices to their customers through the sale of burgers such as the 'Big Mac' and 'Whopper'. Instead, the fast food restaurants have responded by promoting sales of chicken burgers and fish fillets.

5

Beef prices have risen due to higher costs for cattle feed and severe drought conditions in Australia and New Zealand (the main suppliers of beef for American fast food restaurants).

However, there is some good news. The fast food restaurants have benefited from the recession as consumers made savings by switching from eating at expensive restaurants to cheaper burger bars.

10

(Source: © *The Times* 'Increase in meat prices has burger lovers asking: where's the beef?', Alexandra Frean, 24th May 2010)

## Extract 2 Cattle farms damaging the rainforest

Deforestation in Brazil releases an estimated 400 million tonnes of carbon dioxide into the atmosphere every year, making the country one of the biggest emitters of the gas in the world. An average of 7,330 square miles of rainforest has been lost each year since 1995. The destruction of rainforest has accelerated over the past few years due to soaring beef and soya prices. Farmers are burning more rainforest to turn land into cattle ranches and into fields for growing crops.

5

However, the President of Brazil announced plans to reduce deforestation by subsidising sustainable development projects. These include replanting trees and creating eco-friendly tourism as alternative means of providing employment and income for local communities. The amount of funds made available has not been revealed.

10

The proposals also include an increase in the policing of forested areas and severe penalties for those breaking the law through illegal logging and farming.

(Source: © Guardian News & Media Ltd 2008, adapted from 'Brazil sets target to slow Amazon deforestation', by David Ljunggren)

(a) Using cross elasticity of demand, discuss the likely relationship between the price of beef and the demand for chicken and fish.

(6)

A series of horizontal dotted lines for writing the answer.

(b) Assess whether beef and beef burgers are likely to be normal goods or inferior goods. (8)

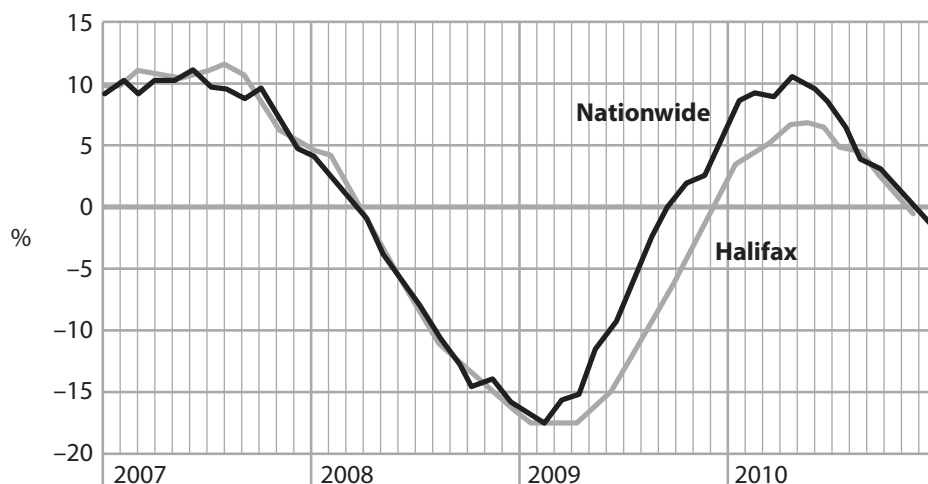
A series of horizontal dotted lines for writing the answer.

**(Total for Question 50 = 14 marks)**



## 51 Difficult times for house builders and first time buyers

**Figure 1 UK house prices, year on year % change**



(Source: © Halifax & © Nationwide Building Society)

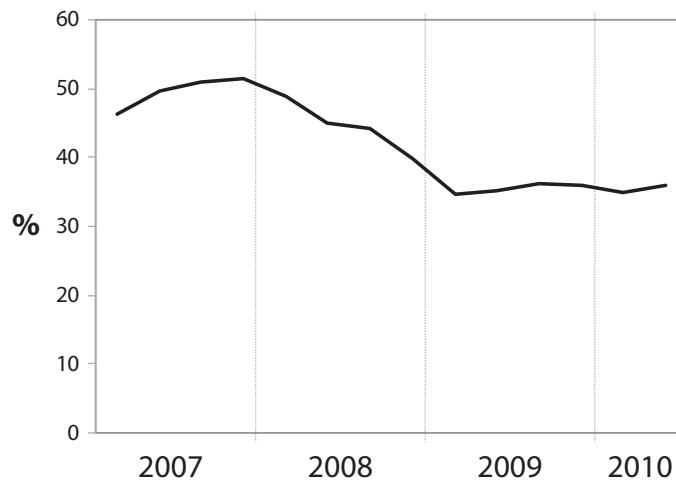
**Figure 2 Share prices of the seven largest UK house builders, percentage change**

Company	% change (Jan 1st–Nov 5th 2010)
Berkeley Group	+2.9
Redrow	-16.2
Bovis Homes Group	-18.8
Persimmon	-23.0
Bellway	-31.7
Barratt Developments	-32.9
Taylor Wimpey	-32.9

(Source: Investing 5th November 2010

<http://www.fool.co.uk/news/investing/2010/11/05/a-harsh-winter-for-housebuilders.aspx>)

**Figure 3 Affordability of UK property for first-time buyers**  
**Mortgage payments as a % of average take home pay for first-time buyers**



(Source: © Nationwide Building Society)

**Extract 1 Falling house prices**

There are fears of a housing market crash following the largest ever recorded monthly fall in house prices in September 2010. According to Halifax Bank, over £6000 (3.6%) was wiped off the average house price.

More than £1 billion has been knocked off the stock market value of Britain’s seven leading house building firms between January and November 2010, over a period when share prices generally have increased by nearly 20%. The fall in house prices has caused the supply of new housing to fall sharply. Builders’ profits and employment have suffered.

5

Howard Archer, Chief economist at Global Insight, believes house prices will continue to fall by 10% in 2011. He added that a combination of factors was affecting house prices, including: high (and rising) unemployment, limited wage growth, deteriorating consumer confidence and difficulties in getting a mortgage.

10

(Source: © Guardian News & Media Ltd 2010)

## Extract 2 First-time buyers

The number of new mortgages (loans which enable people to buy a property) dropped in September to its lowest level for more than a decade. Despite falling house prices, there are immense challenges for first-time buyers to get on to the property ladder. Lenders have increased the cash deposit required to gain a mortgage and refused to pass on interest rate cuts to this group of buyers due to the risk involved. The outlook is further worsened by rising unemployment and soaring student debt. A 30% cut in government subsidies for new-build affordable homes was also announced in the government spending review.

5

However, Figure 3 shows that housing has become more affordable for first-time buyers over recent years if they can provide a cash deposit. The alternative is to rent property. The Royal Institution of Chartered Surveyors report an increase in demand for rental properties and in rents charged over the latter part of 2010.

10

(Source: © Guardian News & Media Ltd 2010 adapted from 'Clouds over the housing market create a perfect storm for first-time buyers', by Simon Bowers)

**51** Discuss whether the supply of **new** housing is likely to be price elastic or price inelastic.

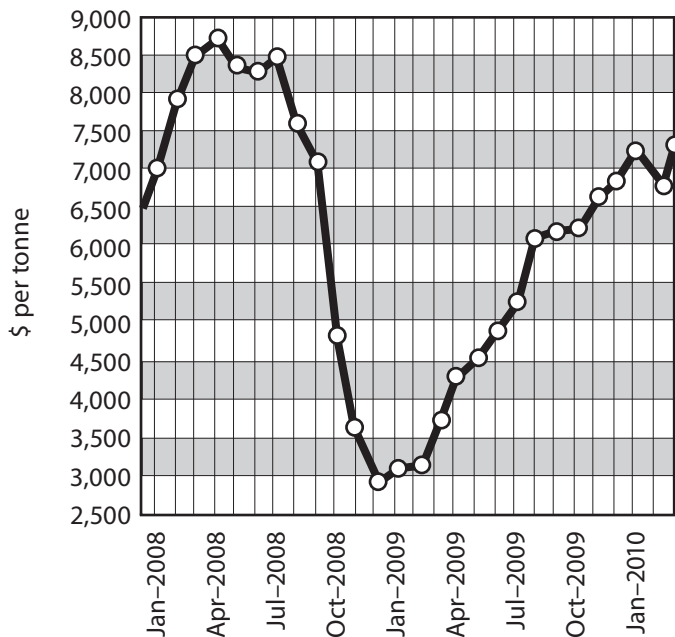
(6)

A series of horizontal dotted lines for writing the answer to Question 51.

**(Total for Question 51 = 6 marks)**

## 52 The market for copper

Figure 1 Copper prices, January 2008–March 2010



Source: [www.lme.com/copper\\_charts.asp](http://www.lme.com/copper_charts.asp)

### Extract 1 Unstable copper prices

The price of copper has been highly unstable over the past year. It collapsed from a record level of \$8,940 in April 2008 to \$2,871 per tonne by December of that year. The steep drop in price followed lower global economic growth, especially from China. The decrease in demand was most noticeable in the motor vehicle and construction sectors which use vast amounts of the metal. Its impact was to reduce profits and share prices of major copper mining companies such as Chile's Antofagasta.

5

However, by March 2010, copper prices recovered to almost \$7,500 per tonne. This followed disruption to supply in several major copper mines in Chile due to a severe earthquake and a series of strikes by miners, demanding a 7.5% pay rise. The global economy has also recovered from the recession and China is expected to achieve an economic growth rate of 9.5% in 2010. The dramatic fluctuations in copper prices have led some analysts to propose a guaranteed minimum price scheme.

10

Source: Adapted from 'Miners dragged lower as price of copper tumbles', Peter Stiff, *The Times*, 19th December 2009.

## Extract 2 Proposals for a major copper mine in Bristol Bay, Alaska

Rising copper prices has made it profitable to open new mines. The mining companies Northern Dynasty and Anglo-American Corporation have jointly proposed creating North America's largest open pit mine at Pebble Mill in Bristol Bay, Alaska. It would be 3.2 kilometres long and 610 metres deep. It would also involve building the largest dam in the world to hold back the vast amount of toxic waste created in the mining process. The dam, made of earth rather than concrete, would be 220 metres high and 7 kilometres long. It takes a thousand tonnes of copper ore to produce just one tonne of copper metal.

5

However, Bristol Bay is home to the world's most productive wild salmon fishery and there is concern that pollution from the mines would destroy the \$400 million a year fishing and canning industries, as well as having a negative impact on tourism. The area already has a history of earthquakes and severe flooding which increase the chances of pollution from the mining project. The local native communities strongly oppose the scheme and the planning enquiry is expected to take several years.

10

Source: Adapted from Pebble mine – Bristol Bay Alaska  
[www.renewableresourcescoalition.org/project\\_outline.htm](http://www.renewableresourcescoalition.org/project_outline.htm)  
[www.ourbristolbay.com/commerical-fisheries.html](http://www.ourbristolbay.com/commerical-fisheries.html)

(a) With reference to Extract 1, explain whether you think copper is a normal or an inferior good.

(6)

A series of horizontal dotted lines for writing the answer.

(b) With reference to the information provided and your own knowledge, assess whether the supply of copper is likely to be price elastic or price inelastic.

(10)

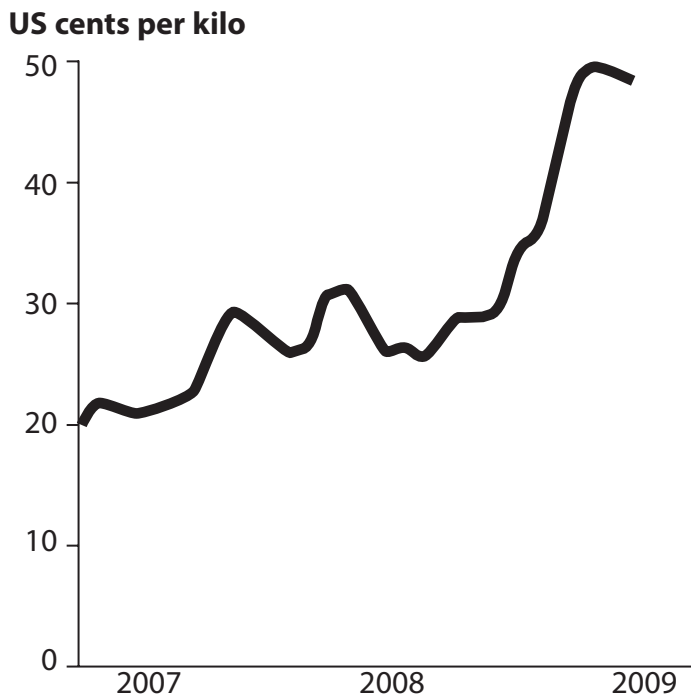
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## 53 The Price of Sugar

Figure 1: World price of sugar



(Source: [www.mongabay.com/images/commodities/charts/sugar.html](http://www.mongabay.com/images/commodities/charts/sugar.html))

### Extract 1 Soaring price of sugar

Sugar prices around the world more than doubled over the last few years, reaching 50.8 US cents per kilo in 2009, a 28-year high.

Sugar production in Brazil, the world's largest producer, has been hit by heavy rain. Brazil is also diverting part of its sugar cane crop to making ethanol fuel for use by motor vehicles.

Speculative demand has also forced up sugar prices. Eugene Weinberg, an analyst at Commerzbank, pointed out that cash-rich speculators have purchased sugar stocks in anticipation of its price rising to even higher levels next year.

For much of the last decade, sugar has not been a very profitable crop compared to other types of farming. Recent high prices cannot result in an immediate increase in sugar production, as it may take up to two years for supply to respond. Destroying rainforests as a means to increase sugar production has a negative environmental and social impact.

(Source: adapted from 'Food groups say US is running out of sugar', by Alexandra Frean, *The Times*, 13th August, 2009 and 'Chasing a sugar rush: global deficit drives price rises', by Sean O'Grady, *The Independent*, 11th August, 2009.)

## Extract 2 US faces sugar shortage

America's obesity problems may soon shrink amid fears that the makers of treats, such as Oreo cookies, Krispy Kreme doughnuts and Hershey bars, could run out of sugar. Leading food companies, including Kraft, Mars and Hershey, have warned the government that there may be a serious sugar shortage unless it allows more imports of the commodity into the country. The food companies blame the shortage on the government's policy of restricting imports of sugar in order to protect the incomes of US sugar farmers in the Midwest. 5

Rising sugar prices have affected the production costs of chocolate and other confectionery companies. However, there are many other costs to consider. At Mars, for example, sugar is third on its list of ingredient costs behind cocoa and milk. Moreover, the price of milk has been falling over recent years, helping to offset the increase in sugar costs. 10

Chocolate and other confectionery companies have experienced increased sales during the recession as people attempt to cheer themselves up by consuming more sugary treats. 15

(Source: adapted from 'Food groups say US is running out of sugar', by Alexandra Frean, *The Times*, 13th August, 2009 and 'Chasing a sugar rush: global deficit drives price rises', by Sean O'Grady, *The Independent*, 11th August, 2009.)

(a) With reference to Extract 1, explain why the price elasticity of supply of sugar is likely to change over time.

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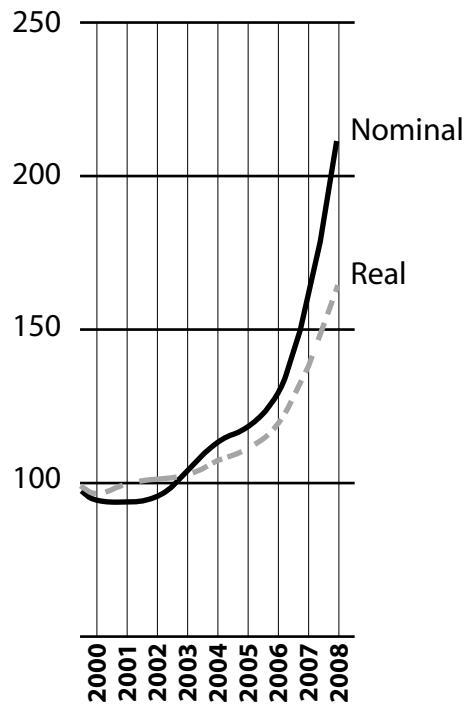


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**(Total for Question 53 = 14 marks)**

## 54 Rising Food Prices

**Figure 1 Food and Agricultural Organisation (FAO) Food Price Indices, 2000–2008**



Source: <ftp://ftp.fao.org/docrep/fao/meeting/013/k2414e.pdf>

### Extract 1 Food Prices

The UK faces a major food crisis unless urgent steps are taken to support its agricultural sector, warns a report by Chatham House, an influential research organisation. The report suggests that UK consumers must expect to pay significantly more for food to ensure long term security. It warns that developed countries have tended to take their food supply for granted and that recent sharp rises in commodity prices will occur more frequently in the future.

5

The rapid rise in food prices is linked to the growth in global population and rising incomes in the developing world, along with increased costs of agricultural production.

The report warns of the limited availability of land for agricultural expansion in the UK and recommends a discussion of using intensive farming methods and genetically modified crops to increase output. However, this could reduce quality and bio-diversity while increasing the risk of crop diseases.

10

The UK produces just 48% of the food it consumes. Around 30% comes from the rest of Europe and the remaining 22% from non-European countries. A crisis could develop through some form of external shock, such as animal or crop disease, or extreme weather events leading to a shortage of affordable food. It is households on low incomes which are hit the hardest by rising food prices.

15

The report calls for government funding to expand agricultural production, innovation and skills. This includes guaranteed minimum prices to encourage more domestic agricultural production.

20

The report also indicates the need for consumer attitudes to change. Around one third of all food purchased is thrown away, some 6.7 million tonnes a year, most of which is edible.

Source: 'Britain must revive farms to avoid grave food crisis', by Jamie Doward, *The Observer*, 1st February 2009.





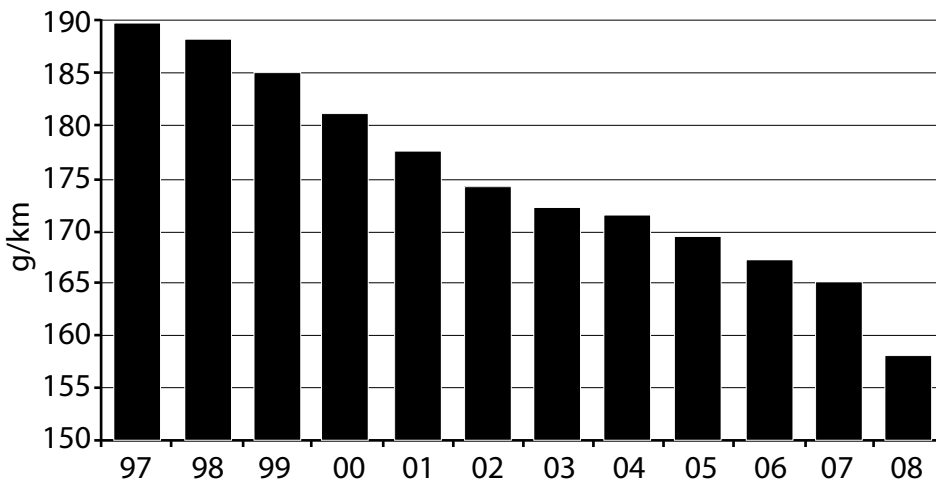
## 55 The Motor vehicle market

**Figure 1: UK new car sales**

Year	UK new car sales (million)
2003	2.58
2004	2.57
2005	2.44
2006	2.35
2007	2.40
2008	2.26
2009 (forecast)	2.16

Source: Society of Motor Manufacturers and Traders fact sheet 2009; [www.smmmt.co.uk](http://www.smmmt.co.uk)

**Figure 2: Carbon dioxide emissions for new cars (grams per kilometre)**



Source: Society of Motor Manufacturers and Traders fact sheet 2009; [www.smmmt.co.uk](http://www.smmmt.co.uk)

### Extract 1 Impact of the economic downturn on the UK car market

The purchase of a car is the second largest expenditure item for consumers after buying a house. Not surprisingly, the economic downturn has caused a drastic fall in demand for new cars. New car sales fell by 21.8% in the first three months of 2009 in response to a 1% fall in real income over the same period.

Thousands of UK motor vehicle manufacturing jobs are likely to be lost this year. Nissan announced 1,200 redundancies in January and Toyota halved the number of shifts on its production lines. Several car companies have reduced wages, for example, Honda has reduced wage rates by 10%. Other companies have frozen pay to avoid compulsory redundancies. BMW and Ford closed their motor vehicle factories temporarily to reduce stockpiles of cars. General Motors, the owner of Vauxhall, may close its two UK plants in Luton and Ellesmere Port unless significant government grants or loans are provided. These factories are in areas of relatively high unemployment. 5  
10

Source: Adapted from 'Fears for 40,000 jobs in British car trade as Toyota goes into red', by Leo Lewis and Tom Bawden, *The Times*, 23rd December 2008 and SMMT fact sheet smmt.co.uk

### Extract 2 Government car scrappage scheme

In the 2009 Budget, Chancellor Alistair Darling announced that motorists who scrap a car more than ten years old will receive a £2,000 grant when purchasing a new vehicle. The scheme follows similar moves by major European countries, including France and Germany.

However, the motor vehicle companies have to contribute £1,000 to the subsidy and the remaining £1,000 is paid by the government. The UK scheme will cost just £300 million and will end when the money runs out. By contrast, the German government has allocated £4.49 billion, boosting new car sales by 40%. 5

The car scrappage scheme is likely to boost the sale of smaller models such as the Toyota Yaris, but will be of little benefit to larger and more expensive vehicles such as Jaguar. The scheme has also been criticised for benefiting foreign manufacturers since eight out of ten cars bought in the UK are imported. However, the government claims that many of these imported cars have UK-made parts and the scheme will help UK car retailers. 10

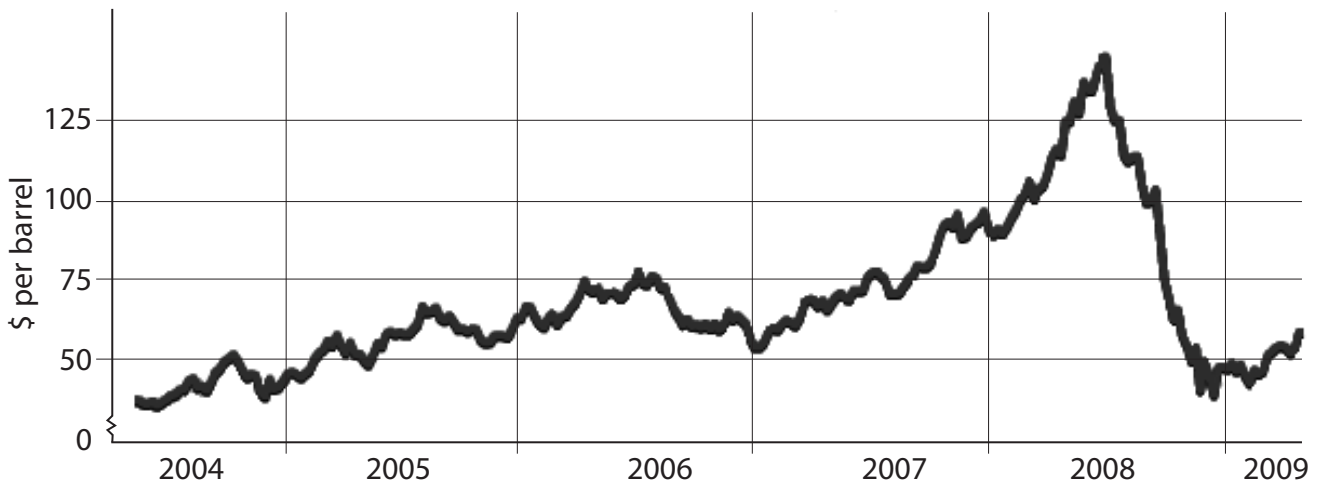
The Society of Motor Manufacturers and Traders urged the government to provide more help for the industry by reducing fuel taxes and making it easier for consumers to get car loans. 15

(Source: 'Budget 2009: car industry welcomes scrappage scheme', by Dan Milmo, *The Guardian*, 22 April 2009.)



## 56 Oil prices

**Figure 1: The fluctuating price of oil, 2004–2009**



(Source: <http://markets.ft.com/tearsheets/performance.asp?s=GB@IB.1>)

### Extract 1 Soaring oil prices

Oil prices increased by more than 400 per cent between the start of 2004 and July 2008, from \$25 to \$139 a barrel, largely caused by rapid economic growth in China and speculative buying by traders intent on making quick profits. The major oil exporters were unable to respond by increasing production, due to a prolonged period of under-investment in refining capacity.

5

The high oil prices have led to an increase in oil exploration and investment in other regions. Many small oil fields in the North Sea that were once too small, too deep or too dangerous to explore are now being developed, but this could take many years to come on stream. Brazil and Azerbaijan have also invested heavily to raise future production.

10

(Source: adapted from 'Explorers find new fields to conquer', Dominic O'Connell, *Sunday Times*, 8th June 2008.)

## Extract 2 The impact of rising fuel prices on the airline industry

There are fears that rising oil prices will worsen the global recession. Many industries are suffering, especially airlines. Hardly a week goes by without an airline company going bankrupt due to uncertainty over the costs of fuel and falling passenger demand. Douglas McNeill, of Blue Oar investments, believes that more than fifty European airlines are under threat as the industry faces its worst ever trading environment.

5

However, Willie Walsh, chief executive of BA, said "It's a positive thing if some of these airlines go out of business as it will take capacity out of the market. Look at Alitalia – it should not be allowed to continue in business. It is propped up by state subsidies from the Italian government".

10

Airlines are finding it difficult to raise fares when passenger demand is falling. Similarly, it is hard to cut costs in a safety conscious industry.

(Source: 'Final call for more than fifty airlines', David Robertson, Rachel Sylvester and Alice Thomson, *The Times*, 2nd August, 2008.)

## Extract 3 The price of petrol

UK petrol prices increased by more than 33 per cent between the start of 2004 and July 2008, from 86 pence to 115 pence per litre – the highest in the European Union. This was due to the rising price of oil (from which petrol is derived) and higher taxes on petrol.

The surge in fuel prices led to growing protests across the UK as road haulage companies and motorists complained that the tax on petrol was too high. Many small transport firms faced ruin. The Freight Transport Association, a pressure group for road haulage firms, urged the government to cut taxes on road fuel. In response, the government has cancelled a planned tax increase of 2 pence per litre.

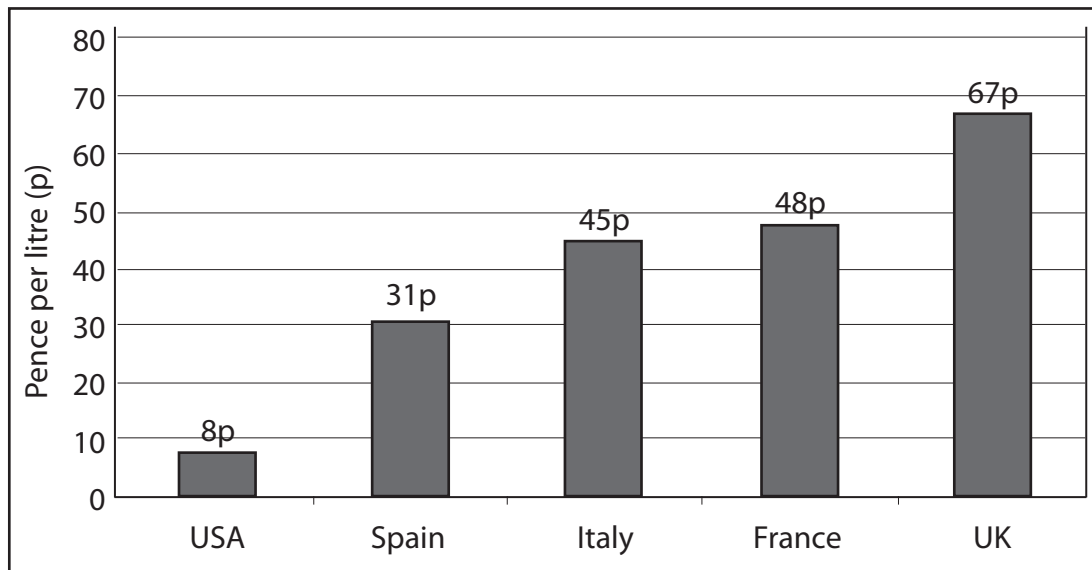
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However, since July 2008 falling oil prices has taken some pressure off the government. Petrol prices have come back down to 89 pence per litre.

10

(Source: [www.petrolprices.com](http://www.petrolprices.com) 2009)

**Figure 2: Petrol tax for selected countries May 2008**



(Source: European Automobile Manufacturers Association 2008.)





## 57 Road congestion and road pricing in Great Britain

**Figure 1: Road transport statistics**

	<b>1996</b>	<b>2001</b>	<b>2006</b>
Number of licensed private cars (millions)	21.2	23.9	26.5
Private cars vehicle traffic (billion vehicle km travelled)	359.9	382.8	402.4
Public roads in use (km)	387,000	391,000	398,000

**Figure 2: The cost of travel by motor vehicle, rail and bus**

Index 1996 = 100	<b>1996</b>	<b>2001</b>	<b>2006</b>
Motoring (cars)	100	114.8	119.0
Bus fares	100	120.2	146.6
Rail fares	100	116.6	136.3
<b>Retail Price Index</b>	<b>100</b>	<b>111.5</b>	<b>129.7</b>

**Figure 3: Household income and bus travel**

	<b>1996</b>	<b>2001</b>	<b>2006</b>
Average gross weekly household income (£ current prices)	£397	£541	£615
Bus travel (billion vehicle km travelled)	5.0	5.2	5.4

(Source of Figures 1–3: Annual Abstract of Statistics 2008.)

### Extract 1 Case for a national road pricing scheme

A national road pricing scheme could reduce congestion on Britain's roads by fifty per cent according to a government report on 'The future of Britain's transport system' published today. The Chair of the report, Sir Rod Eddington, said charging motorists could reduce carbon emissions and save the economy up to £28 billion in wasted time delays by 2025.

5

It recommended that motorists pay more at peak times and in congested areas, up to £1.30 per mile. The funds raised could then be re-invested into improving the nation's road and rail network, particularly in heavily congested areas.

A national scheme would operate by installing satellite boxes in each car, with varying rates set at a 'per mile' basis for all roads depending on congestion and time of day.

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Sir Rod Eddington commented: "I am in no doubt that by setting prices to reflect both the congestion and environmental costs of travel, the transport system can be used more efficiently; it will support UK competitiveness and will contribute to reduced emissions. I believe there is no attractive alternative to road pricing. Without a widespread scheme by 2015, Britain will require very significantly more road transport infrastructure".

15

(Source: 'Report calls for road pricing to ease congestion', by James Sturcke, *The Guardian*, 1st December, 2006.)

### Extract 2 Case against road pricing

The government has postponed plans for a national road pricing scheme following an online petition with 1.8 million signatures objecting to it. The Minister for Transport, Ruth Kelly, stated that such a scheme raised concerns over privacy and fairness. Road pricing would affect motorists in different ways according to their income. There is also a huge cost involved and some uncertainty over the effectiveness of implementing a nationwide road pricing programme. Currently, more than a million motorists evade paying road tax.

5

Instead, the government favours car-sharing lanes, a tax on workplace parking and converting hard shoulders on motorways into extra lanes. According to the Department for Transport, converting hard shoulders into motorway lanes costs just £6 million per kilometre compared to £25 million per kilometre for widening schemes. A recent pilot scheme which used the hard shoulder on the M42 motorway proved to be successful.

10

Road pricing has not been completely abandoned. The government intends to introduce smaller schemes for selected lanes on motorways by 2015.

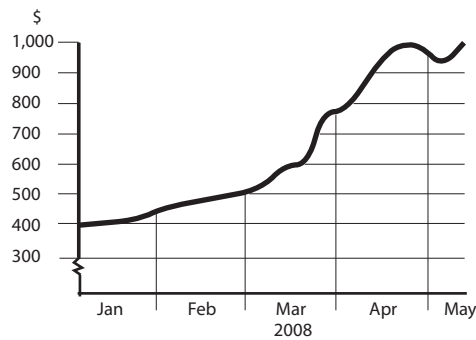
15

(Source: 'Road pricing scheme stalled', by Dan Milmo, *The Guardian*, 4th March 2008.)



## 58 The rice market

**Figure 1: The price of rice, January to May 2008 (price per tonne US\$)**



### Extract 1 Soaring rice prices

The price of rice increased dramatically from \$400 to \$1,000 per tonne between January and May 2008, sparking food riots and protests in many countries, ranging from Haiti in the Caribbean to Pakistan in Asia.

The soaring price of rice is due to rising incomes in developing countries such as China, and population growth in India and Indonesia; severe flooding and droughts in rice growing regions have also had an effect – the most recent example being a cyclone which devastated Myanmar in May 2008. 5

In Thailand, one of the world's largest rice producers, farmers have responded by raising supply. Fields which have been unused for many years are now being ploughed and rice seed planted. Farmers are even contemplating three or four harvests a year rather than the usual one or two. Many have given up jobs in towns and cities to return to the countryside and cash in from growing rice. 10

(Source: 'Fear of rice riots as surge in demand hits nations across the Far East' by Leo Lewis, *The Times*, 8th April 2008.)

### Extract 2 Government intervention in the rice market

Governments in several rice growing countries such as India, Vietnam, Egypt and Cambodia have imposed restrictions on rice exports in order to switch supplies to their own domestic consumers. This should make rice more affordable. However, it could cause problems in the long term since rice farmers will not benefit from the high global price that consumers in developed countries are prepared to pay. It will affect the incentive to produce. 5

The governments are also considering a buffer stock scheme which aims to adjust market supply between good and poor harvests and so guarantee rice at an affordable price. However, buffer stock schemes have failed spectacularly in other commodity markets, for example, coffee, cocoa and tin. These have reflected problems in funding and excess production. The millions of rice growers in Asia could make it unworkable. 10

(Source: 'Thai cartel idea outrages rice consumers' by Carl Mortishead, *The Times*, 3rd May 2008.)



(b) With reference to Extract 1, discuss whether the price elasticity of the supply of rice in Thailand is likely to change over time.

(9)

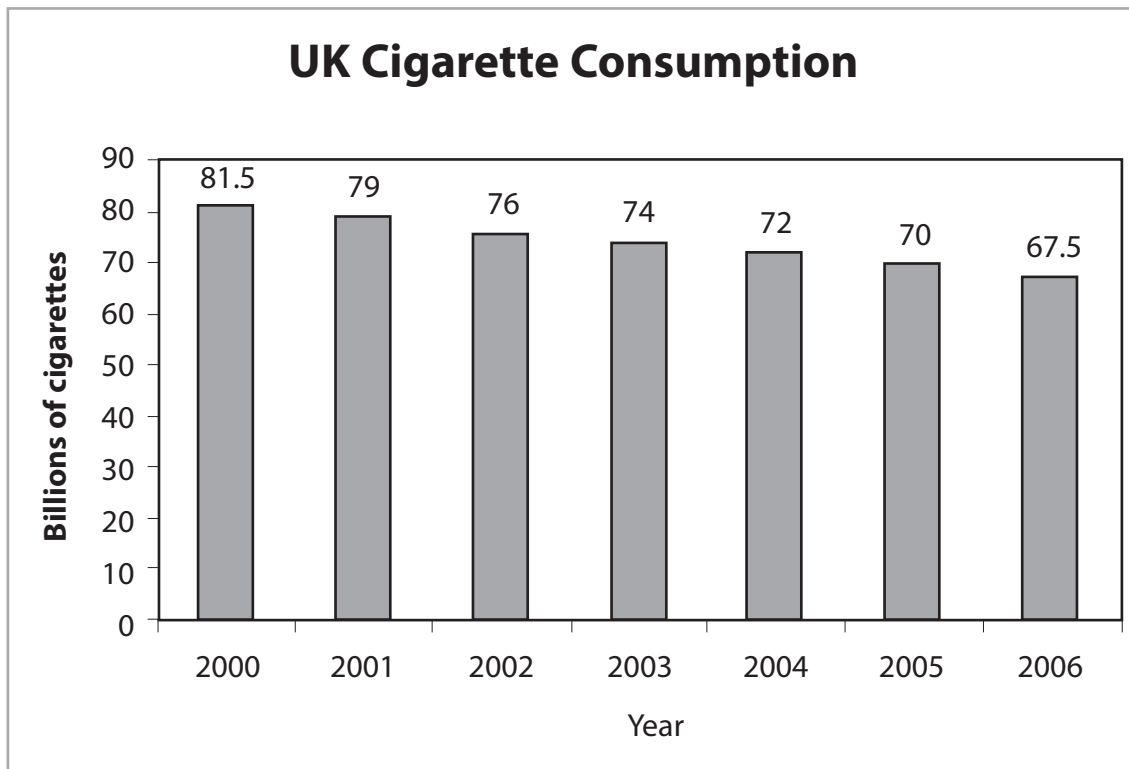
A series of horizontal dotted lines for writing the answer.

Handwriting practice area with 20 horizontal dotted lines.

**(Total for Question 58 = 14 marks)**

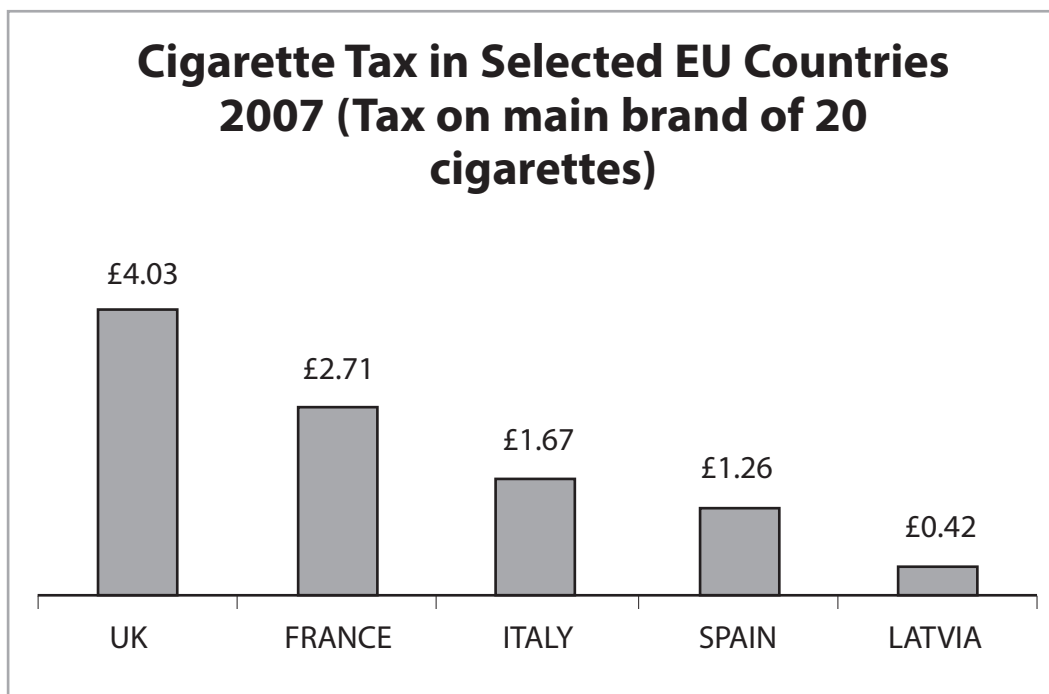
## 59 The UK Tobacco Market

Figure 1: UK Cigarette Consumption (2000 – 2006)



(Source: [www.the-tma.org.uk](http://www.the-tma.org.uk))

Figure 2: Cigarette Tax in selected EU countries (2000 – 2006)



(Source: [www.the-tma.org.uk](http://www.the-tma.org.uk))



**Extract One****Tobacco smoking in decline**

The government can be proud of its achievements in implementing strong tobacco control measures over recent years. The ban on tobacco advertising in 2003 and effective public health campaigns have helped smokers to give up. The ban on smoking in pubs, clubs and restaurants in July 2007 means the decline is set to continue.

However, smoking is hardly declining among socially disadvantaged groups. Currently, the government is unlikely to reduce health inequalities and in fact the gap is set to widen.

It is vitally important that the government increases measures to help poorer smokers to quit by widening access to 'stop smoking' treatments and maintaining funding of its mass media educational campaigns. The use of nicotine patches and gum, which are intended to reduce dependency on cigarettes, has helped many smokers give up. The government should also renew its efforts to reduce the illegal practice of tobacco smuggling which has encouraged smoking.

(Source: Adapted from Deborah Arnott, Director of the health campaigning charity ASH)

**Extract Two****Tobacco taxes too high**

The UK has a higher tax rate on cigarettes than any other European Union country and according to figures from Her Majesty's Revenue and Customs, as much as £25 billion in revenue has been lost since 2000 due to smuggling and cross-border shopping. The Tobacco Manufacturer's Association estimate that UK tax was not paid on 27 per cent of cigarettes consumed in 2006.

Despite the introduction of a smoking ban in pubs, clubs and restaurants in England in July 2007 more than twenty-five per cent of the adult population continue to smoke. Many pubs, clubs and restaurants have invested in comfortable outdoor smoking areas in order to keep as many customers as possible.

The minimum legal age of sale for tobacco was increased from 16 to 18 years of age in October 2007 but this seems to have had little impact on reducing the numbers of young people who smoke, according to a Trading Standards survey in North West England. It found that many young people are still able to obtain tobacco from the informal economy, for example, street markets or neighbours.

(Source: The Tobacco Manufacturer's Association)

