OCR – A Level Economics

Component 1 – Microeconomics

2. The role of markets

Worked Examples

Contents

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Supply and Demand

Exam Style Question 1

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.

Calculate the change in equilibrium price given the increase in packaging costs. Use the last column for your workings. **[4]**

Supply and Demand

Exam Style Question 1

Answer:
PlayStation 4 game supply dropped by 80,000 due to higher packaging costs. Let's find the new equilibrium price where demand equals supply.

Price	Quantity demanded per month (000s)	Quantity supplied per month (000s)	New quantity supplied per month (000s)
£25	400	320	320-80=**240**
£30	360	360	360-80=**280**
£35	320	400	400-40=**320**
£40	280	440	**360**
£45	240	480	**400**

Complete table with all correct answers **[2]**

Equilibrium price is where quantity demanded (QD) = quantity supplied (QS) therefore:

- Current equilibrium price = **£30** (QD = 360, QS = 360)
- New equilibrium price = **£35** (QD = 320, QS = 320) **[1]**

Therefore, change in the equilibrium price is $£35 - £30 = £5$ increase. [1]

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Supply and Demand

Exam Style Question 2

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

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

As a result of a successful advertising campaign, demand increased by 3,000 e-cigarette kits at all prices. At the same time production costs fell leading to an increase in supply of 1,000 e-cigarette kits at all prices.

Calculate the new equilibrium price and quantity following the successful advertising campaign and the fall in production costs. Use the last two columns for your working. **[4]**

Supply and Demand

Exam Style Question 2

Answer:
An ad campaign boosted demand for e-cigarette kits, and cheaper production increased supply. Let's find the new equilibrium price and quantity where demand meets supply.

Price (£)	Quantity demanded per month (000s)	Quantity supplied per month (000s)	New quantity demanded per month (000)	New quantity supplied per month (000s)
25	5	9	5+3=**8**	9+1=**10**
24	6	8	6+3=**9**	8+1=**9**
23	7	7	7+3=**10**	7+1=**8**
22	8	6	**11**	**7**
21	9	5	**12**	**6**

Complete table with all correct answers **[2]**

Equilibrium price is where quantity demanded (QD) = quantity supplied (QS) therefore:

- Current equilibrium price = **£23** (QD = 7000, QS = 7000)
- New equilibrium price = **£24** (QD = 9000, QS = 9000) **[2]**

Supply and Demand

Exam Style Question 3

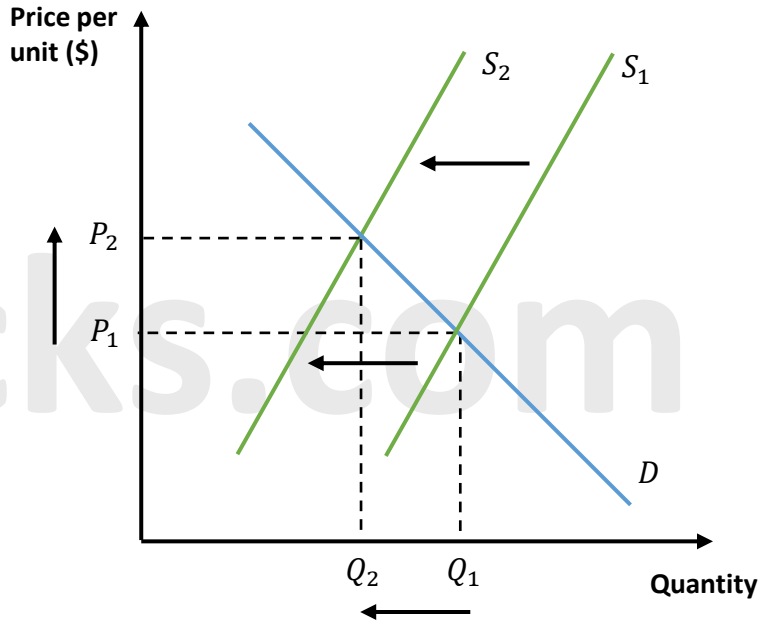
In August 2017 Hurricane Harvey caused the closure of nearly a quarter of the oil production capacity in the United States.

Draw a supply and demand diagram to show the likely microeconomic effects of the hurricane on the US oil market. **[4]**

Supply and Demand

Exam Style Question 3

Answer:
Hurricane Harvey shut down a quarter of US oil production. That's a **big hit to supply**, meaning there's less oil available in the market.



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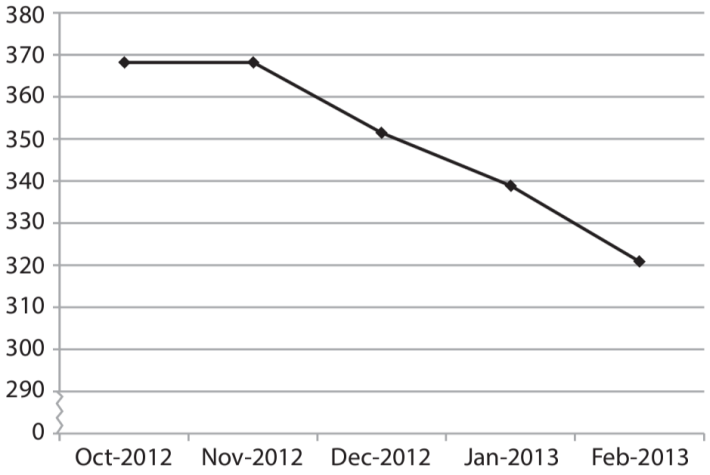
Exam Style Question 5

The price of black tea, US cents per kilogram.



(Source: © IMF)

The graph shows the price of tea between October 2012 and February 2013. (You may use a demand and supply diagram in your answer.)

A: An increase in the wages of tea growers.

B: An increase in the price of coffee.

C: A larger tea harvest than expected.

D: A decrease in the price of sugar.

Answer ☐

Explanation [3]

Supply and Demand

Exam Style Question 5

Answer:
C [1]

The data shows there is a fall in price of black tea e.g., from 368 cents to 321 cents per kilo. **[1]**

Larger harvests = more supply. An increase in tea crop means there's more tea in the market. When supply increases, price falls. **[1]**

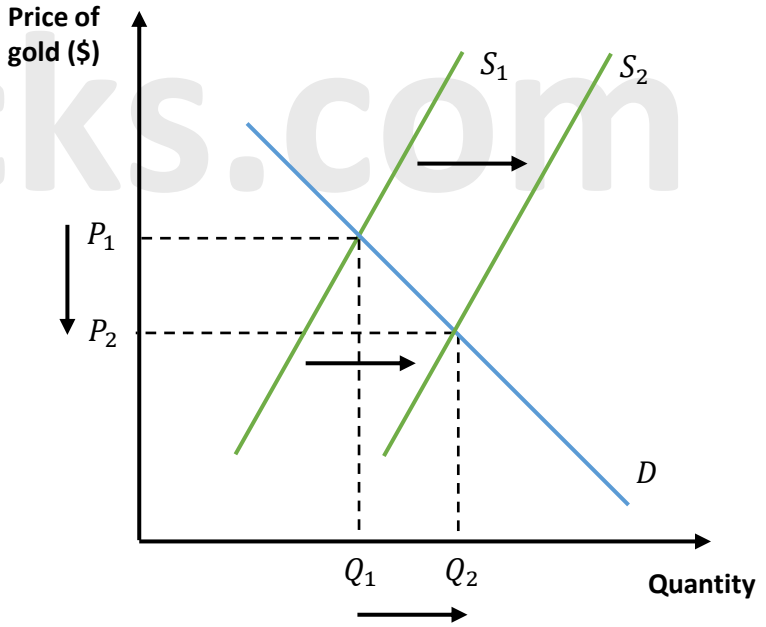


Diagram [2]

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Elasticities

Exam Style Question 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 (PED) for its product. **[3]**

Elasticities

Exam Style Question 1

Answer:
(a) D [1]
Explanation:
A incorrect as this is about price elasticity, not income elasticity.
B incorrect as unemployment falls fewer people will use buses.
C incorrect negative cross elasticity would mean buses and rail are complements, but this isn't implied here.
D correct. A negative income elasticity (-1.5) means its an inferior good – people switch to alternatives (like cars) when their income rises.

(b) Answer
Knowledge/Understanding [1]
- The lower the **PED**, the less sensitive customers are to price changes.
- This means that even if the price goes up, the **quantity demanded** doesn't decrease much.

Application [1]
- For example, if a product has a PED of **-0.1** and the price increases by **10%**, sales will only fall by **1%** (ceteris paribus).
- This means the **extra revenue from the 10% higher price** would more than make up for the **small drop in sales**.

Analysis [1]
- When a product has a low PED, it's easier for a business to increase revenue by raising prices.
- Since demand doesn't fall much, the firm earns more from the higher price, boosting **total revenue**.

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Exam Style Question 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]**

(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:

[2]

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. **[2]**

Elasticities

Exam Style Question 2

Answer:

(a) Calculate PES

$$PES = \frac{\%\ change\ in\ quantity\ supplied}{\%\ change\ in\ price}$$

Step 1: Find the % change in quantity supplied:

$$\%\ change\ in\ quantity = \frac{New\ quantity - Old\ quantity}{Old\ quantity}$$

$$\%\ change\ in\ quantity = \frac{162{,}880 - 134{,}612}{134{,}612} \times 100 = 21.0\%$$ **[1]**

Step 2: % change in price

This is already given as 5.4%.

Step 3: Calculate PES

$$PES = \frac{21}{5.4} = 3.89$$

Answer: The PES is 3.89. **[1]**

(b) Interpretation of the scenario

If a 2.5% price increase causes a 10% increase in supply, the supply is **relatively price elastic** because the percentage change in supply is much larger than the change in price.

Answer: C

Other reasons:

- **A incorrect** because PES does not equal to infinity.
- **B incorrect** because PES does not equal to zero.
- **D incorrect** because PES is not less than one.

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Exam Style Question 2

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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. **[2]**

Elasticities

Exam Style Question 2

Answer:
(c) One factor determining PES.

One major factor that affects the price elasticity of supply for new house builds is the **time it takes to build houses [1]**. Housing supply is often **inelastic in the short term** because it takes time to plan, get permits, and complete construction **[1]**. However, in the long term, supply can become more elastic as builders have more time to respond to changes in demand and price.

Other factors determining PES:
- Levels of spare capacity
- Stocks of finished goods and components available (e.g. bricks)
- Time period and production speed
- Level of factor mobility/flexibility
- Availability of bricklayers, electricians, et…
- Availability of land
- Planning permission/regulations
- Availability of technology/machinery to build.

Another explanation:
- Limited availability of land/builders so supply will be inelastic.

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Exam Style Question 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 ticket 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. **[3]**

Elasticities

Exam Style Question 3

Answer:

(a) Cross Price Elasticity of Demand

The question asks for the **most likely cross-price elasticity** for close substitutes, like Amazon Prime, Netflix, and NowTV.

Close substitutes have a **positive cross-price elasticity** because if one service raises its price, demand for its competitors will increase.

- The correct answer is **D: +2.1**, which indicates a strong positive relationship typical for close substitutes. **[1]**
- **C is not correct** because whilst positive is a substitute a figure less than one does not indicate a close relationship.

(b) New total revenue for cinema tickets

Step 1: Formula for Revenue

$$Total\ Revenue = Price \times Quantity$$ **[1]**

Step 2: Calculate % change in quantity:

We know $PED = -0.5$ and $\%change\ in\ price = +3\%$, therefore:

$$\%change\ in\ quantity = PED \times \%change\ in\ Price$$

$$\%change\ in\ quantity = -0.5 \times 3 = -1.5\%$$ **[1]**

Step 3: Find new quantity

Original quantity = 19.1 million

$$New\ quantity = 19.1 - (19.1 \times 0.015) = 18.8135\ million\ tickets$$

Step 4: Calculate new revenue

New price: £7.63

$$New\ revenue = 7.63 \times 18.8135 = \mathbf{£143.5\ million}$$ **[1]**

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Exam Style Question 4

In February 2016, the Daily Mail newspaper increased its price from 60p to 65p. By August 2016, its sales had fallen by 5.41%.

(a) Ceteris paribus, calculate the price elasticity of demand for the Daily Mail newspaper over this period. You are advised to show your working.

[2]

(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

Elasticities

Exam Style Question 4

Answer:

(a) Calculate Price Elasticity of Demand (PED)

Formula for PED:

$$PED = \frac{\%\ change\ in\ quantity\ demanded}{\%\ change\ in\ price}$$

Step 1: Calculate % change in price:

$$\%\ change\ in\ price = \frac{New\ price - old\ price}{old\ price} \times 100$$

$$\%\ change\ in\ price = \frac{65p - 60p}{60p} \times 100 = 8.33\%$$

Step 2: Calculate the % change in quantity demanded:
Given as -5.41% (sales fell)

Step 3: Calculate PED

$$PED = \frac{-5.41}{8.33} = -0.65$$ **[2]**

The PED is -0.65, meaning demand is price inelastic.

(b) Determinant of PED

The availability of **rival newspapers** (other options people can switch to) is the most likely determinant of the price elasticity of demand for the Daily Mail. More substitutes = higher elasticity.

Answer: **A: Availability of rival newspapers [1]**

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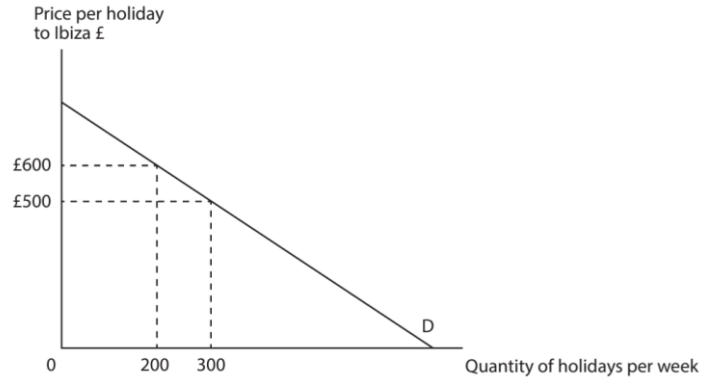
Elasticities

Exam Style Question 5



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]

Elasticities

Exam Style Question 5

Answer:
B [1]

Explanation:

Definition: Price of elasticity of demand is the responsiveness of demand for a good due to a change in its price **OR** $PED = \frac{\%\Delta QD}{\%\Delta P}$. **[1]**

Definition: Total revenue is the total amount of money received by producers from selling a given quantity of a good **OR** $Total\ revenue = price \times quantity$. **[1]**

The diagram shows that when the price increases from £500 to £600, the number of holidays sold drops **a lot** (from 300 to 200). This big drop in quantity demanded tells us that demand is **price elastic** (sensitive to price changes). **[1]**

$$Total\ Revenue = Price \times Quantity$$

Let's calculate it:
- At £500: $500 \times 300 = £150{,}000$
- At £600: $600 \times 200 = £120{,}000$

Total revenue **decreases** because the higher price leads to a much bigger percentage drop in quantity demanded. **[1]**

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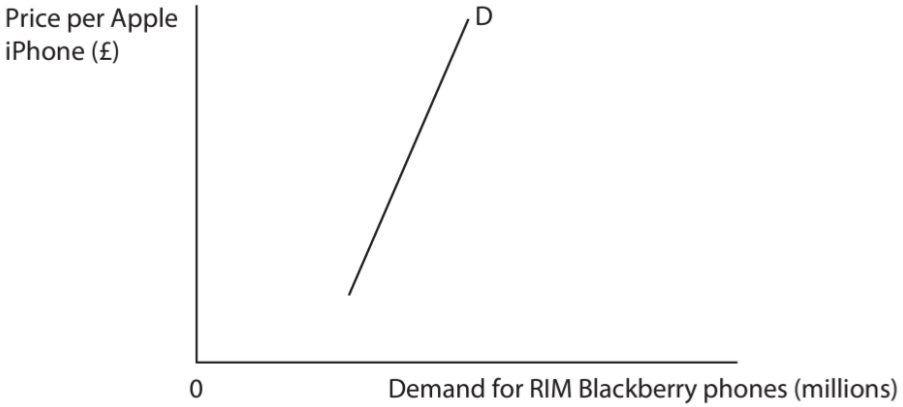
Elasticities

Exam Style Question 6



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 [3]

Elasticities

Exam Style Question 6

Answer:
D [1]

Explanation:

Definition: Cross elasticity of demand is the responsiveness in demand for one good due to a change in price of another good **OR** $XED = \frac{\%\Delta QD\ of\ good\ B}{\%\Delta P\ of\ good\ A}$. **[1]**

The diagram shows that as the **price of the Apple iPhone increases**, the **demand for RIM Blackberry phones increases**. **[1]**

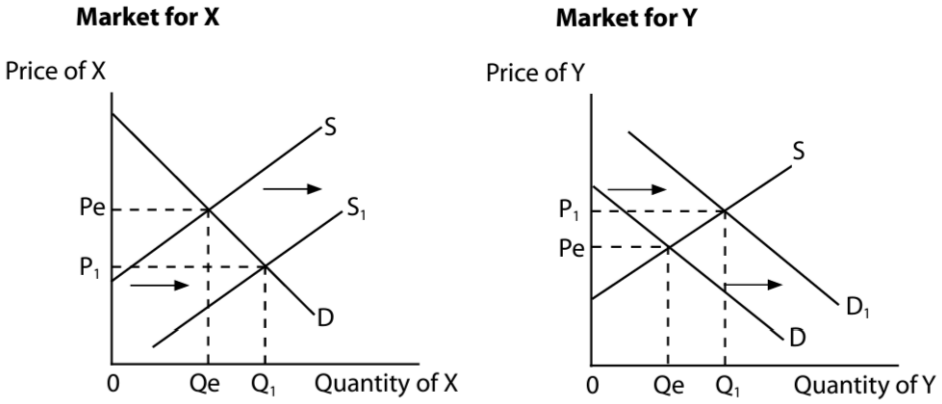
This positive relationship or positive gradient between the price of one product and the demand for another indicates that the two goods are **substitutes**. **[1]** When iPhones become more expensive, people switch to the cheaper alternative, which in this case is the Blackberry.

Rejection marks

- **A: Incorrect** since graph refers to cross elasticity of demand not price elasticity of demand. **[1]**
- **B: Incorrect** since it is complementary goods that have a negative XED. **[1]**
- **C: Incorrect** since a zero XED means there is no relationship between Apple iPhone and Blackberry. There would be a vertical line in the diagram. **[1]**

Elasticities

Exam Style Question 7



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]

Elasticities

Exam Style Question 7

Answer:
C [1]

Explanation:

Definition: Cross elasticity of demand is the responsiveness in demand for one good due to a change in price of another good **OR** $XED = \frac{\%\Delta QD\ of\ good\ B}{\%\Delta P\ of\ good\ A}$. **[1]**

Games console and software games are complementary goods. **[1]**

The supply of good X increases, causing the price of X (consoles) to fall. As a result, more people buy good X (consoles). Because more people now own consoles, the demand for complementary good Y (game software) increases. This pushes the price and quantity of Y up. **[1]**

Rejection marks

- **A: Incorrect** since lamb and chicken are substitutes. A decrease in price of one will cause a decrease in demand for the other **[1]**
- **B: Incorrect** as these goods are unrelated. A cheaper bus ride won't make people buy more potatoes. **[1]**
- **D: Incorrect** since they are joint products (produced together). **[1]**

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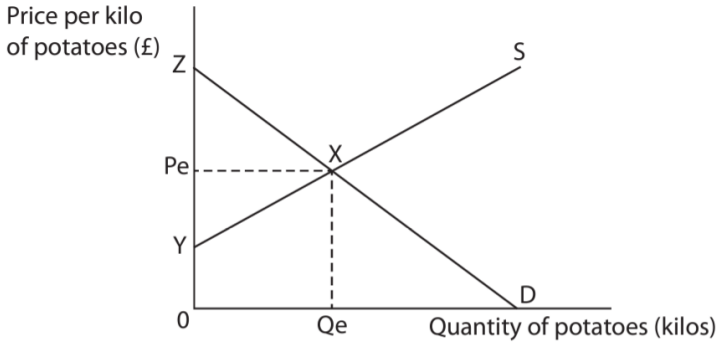
Consumer & Producer Surplus

Exam Style Question 1



The diagram shows the market for potatoes where the initial equilibrium price is Pe and quantity Qe. Use the diagram in your explanation?

An increase in demand for potatoes is most likely to

[1]

A: maintain price at Pe and decrease producer surplus

B: raise price and increase producer surplus

C: maintain price at Pe and increase consumer surplus

D: raise price and decrease consumer surplus

Answer ☐

Explanation [3]

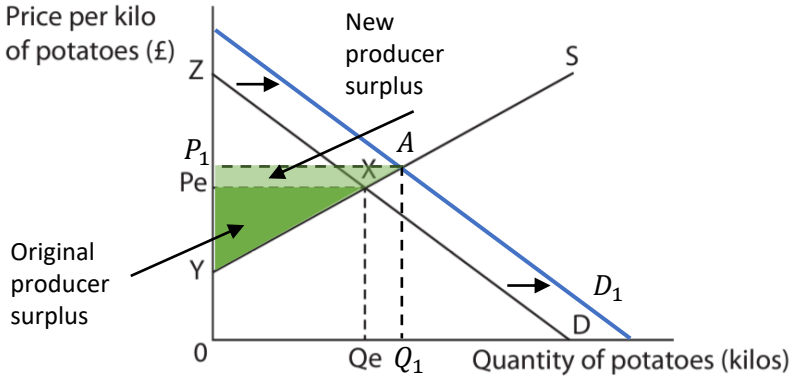
Consumer & Producer Surplus

Exam Style Question 1

Answer:
B [1]

Explanation:

Definition: Producer surplus is the difference between the price producers are willing to supply to the market and the actual market price **OR** the area between the supply curve and equilibrium price line. **[1]**



Annotated diagram [2]

Rejection marks

- **A and C: Incorrect** since an increase in demand will cause an increase in price. **[1]**
- **D: Incorrect** as an increase in demand will cause an increase in consumer surplus. **[1]**

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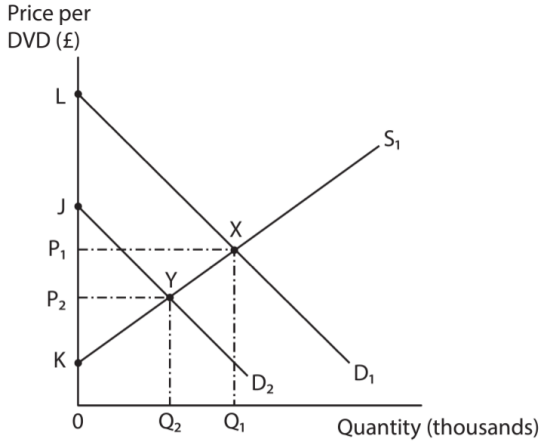
Consumer & Producer Surplus

Exam Style Question 2



The diagram shows the market for DVDs. A decrease in demand from D_1 to D_2 will cause a fall in

[1]

A: producer surplus to P_2JY

B: consumer surplus to LXP_1

C: producer surplus to P_2YK

D: consumer surplus to $0P_2YQ_2$

Answer ☐

Explanation [3]

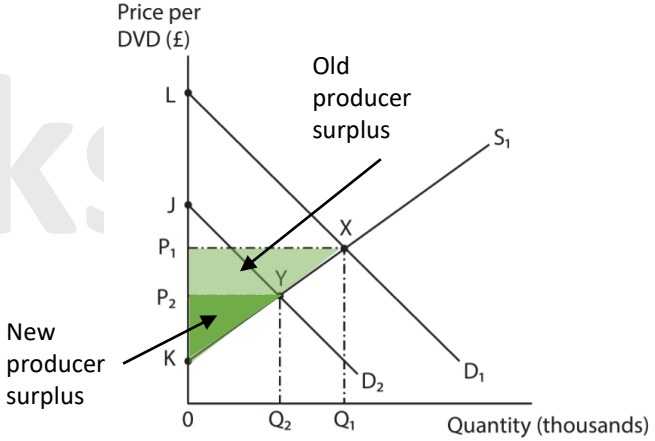
Consumer & Producer Surplus

Exam Style Question 2

Answer:
C [1]

Explanation:

Definition: Producer surplus is the difference between the price producers are willing to supply to the market and the actual market price **OR** the area between the supply curve and equilibrium price line. **[1]**



Annotated diagram [2]

Rejection marks

- **A: Incorrect** as P_2JY is the new consumer surplus area. **[1]**
- **B: Incorrect** as LXP_1 is the original area of consumer surplus. **[1]**
- **D: incorrect** as $0P_2YQ_2$ is the new area of total revenue or total expenditure. **[1]**

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Consumer & Producer Surplus

Exam Style Question 3

Neringa is prepared to pay £2,500 for a luxury cruise to the Caribbean. If the current price is actually £2,000, which of the following might cause her consumer surplus to increase?

[1]

A: An increase in wages paid to cruise holiday workers by £500 per year

B: A decrease in value added tax placed on luxury cruise holidays

C: An increase in the price of the cruise to £3,000

D: A decrease in the number of companies offering luxury Caribbean cruises

Answer ☐

Explanation [3]

Consumer & Producer Surplus

Exam Style Question 3

Answer:
B [1]

Explanation:

Definition: Consumer surplus is the difference between the price one is prepared to pay for a good and the actual price **OR** the area above the equilibrium price and below the demand curve. **[1]**

Definition: VAT is a tax placed on the expenditure. **[1]**

Consumer surplus is the difference between what someone is **willing to pay** (£2,500 in this case) and what they actually pay (£2,000 here). To **increase consumer surplus**, the price Neringa pays must go **lower**, making the gap between her willingness to pay and the actual price bigger. A **decrease in VAT** would reduce the price of the cruise, directly increasing Neringa's consumer surplus. **[1]**

Rejection marks

- **A (increase in wages): Incorrect** because this doesn't directly affect the cruise price for Neringa.
- **C (price increases to £3,000): Incorrect** as a higher price would **reduce** her consumer surplus, not increase it.
- **D (fewer cruise companies): Incorrect** as this could reduce competition and possibly **increase prices**, lowering her consumer surplus.

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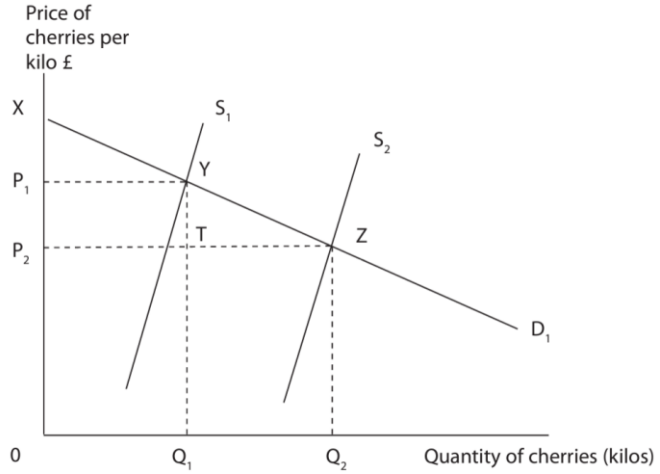
Exam Style Question 4



The diagram shows the market for cherries. In year 1 demand is represented by D_1 and supply by S_1. In year 2, the supply of cherries increases to S_2. This causes consumer surplus to increase to the area:

[1]

A: XYP_1

B: YTZ

C: P_1YTP_2

D: XZP_2

Answer ☐

Explanation [3]

Consumer & Producer Surplus

Exam Style Question 4

Answer:
D [1]

Explanation:

Definition: Consumer surplus is the difference between the price one is prepared to pay for a good and the actual price **OR** the area above the equilibrium price and below the demand curve. **[1]**

Original consumer surplus is XYP_1. **[1]**

Increase in consumer surplus is P_1YZP_2. **[1]**

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Market Failure

Exam Style Question 1

Which **one** of the following statements about public goods is true?

[1]

A: They are only provided by the price mechanism.

B: They involve no opportunity cost in their provision.

C: Their production uses no scarce resources.

D: They are characterised by the free rider problem.

Answer ☐

Explanation [3]

Market Failure

Exam Style Question 1

Answer:
D [1]

Definition: Public goods, like streetlights, are non-excludable (you can't stop people from benefitting) and non-rivalrous (one person's use doesn't reduce availability for others). **[1]**

Explanation: This creates the free rider problem, once a public good is provided, it is difficult to make people pay for the consumption of it. As a result, private companies avoid providing public goods, leaving it to the government to step in. **[2]**

Rejection marks:

- **Option A:** Incorrect because public goods aren't provided by the price mechanism. Since the price mechanism tends to under-provide or not provide since there is no way charging people for consumption of it. **[1]**
- **Option B:** Incorrect, there are opportunity costs; resources used could go elsewhere.
- **Option C:** Incorrect, public goods still require scarce resources to produce. **[1 mark for B and C]**

Market Failure

Exam Style Question 2

Market failure may arise in an economy when

[1]

A: train fares rise in response to an excess demand for rail travel

B: government taxes on petrol reduce the number of motor vehicle journeys

C: external benefits from bus travel are ignored by the price mechanism

D: loss making taxi firms exit the market

Answer ☐

Explanation [3]

You may use a supply and demand diagram in your answer.

Market Failure

Exam Style Question 2

Answer:
C [1]

Definition: Market failure occurs when the price mechanism causes an inefficient allocation of resources; the forces of demand and supply lead to a net welfare loss in society. **[1]**

Definition: External benefits are benefits which the price mechanism fails to take into account. **[1]**

Application: C is correct because when external benefits (like reduced pollution or less traffic due to bus travel) are ignored, the market undervalues buses, causing under-provision. This is a classic **positive externality** problem. If we accounted for these benefits, society would enjoy more bus travel. **[1+1]**

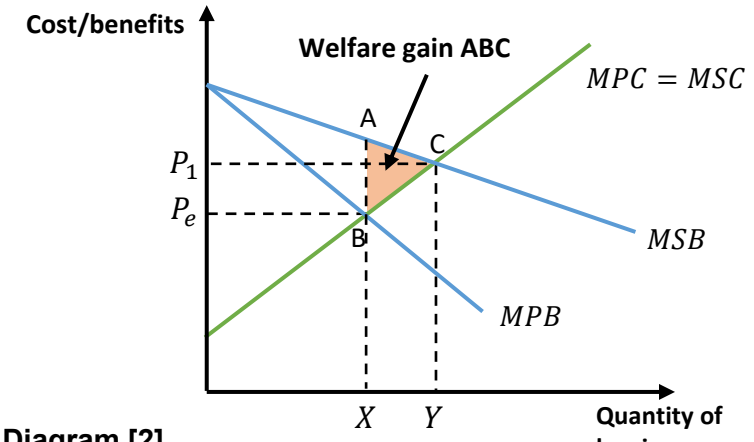

Diagram [2]

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Market Failure

Exam Style Question 3

In 2010 the UK Government expressed concerns that many workers had **not** made adequate pension contributions to fund their retirement. A possible explanation for this under funding of pension is:

[1]

A: pensions are a public good.

B: there is no opportunity cost to making pension contributions.

C: workers have imperfect information.

D: tax incentives for making pension contributions have increased.

Answer ☐

Explanation [3]

Market Failure

Exam Style Question 3

Answer:
C [1]

Definition: Market failure occurs when the price mechanism causes an inefficient allocation of resources; the forces of demand and supply lead to a net welfare loss in society. **[1]**

Understanding: Pension – contributions that workers make from their income which they can use on retirement. **[1]**

Explanation and Application: The underfunding of pensions can be explained by **imperfect information**. Workers often don't fully understand how much they need to save for their retirement or underestimate how long they'll need those savings to last. **[2]**

Rejection marks

- **Option A: is wrong** because pensions are not public goods—they're rivalrous and excludable. **[1]**
- **Option B: is wrong** because there is an opportunity cost to making pension contributions (you're giving up spending that money now). **[1]**
- **Option D: is wrong** because increased tax incentives should encourage contributions, not explain underfunding. **[1]**

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Market Failure

Exam Style Question 4

Dentists working in a market economy may undertake non-essential dental work on patients. A likely explanation for this is:

[1]

A: dental care is a public good

B: the existence of asymmetric information

C: significant external benefits result from dental care

D: there is a shortage of dentists

Answer ☐

Explanation [3]

Market Failure

Exam Style Question 4

Answer:
B [1]

Explanation and Application: Dentists might carry out non-essential dental work because of **asymmetric information**, where they know way more about dental procedures than their patients do. **[1]**

If a dentist suggests a "necessary" whitening treatment, how would you know if it's truly needed or just nice-to-have? **[1]**

Patients rely on the dentist's expertise, which creates a knowledge gap. This can sometimes lead to unnecessary treatments being performed as dentists act in self-interest in order to gain more revenue. **[1]**

Rejection marks:

- **A is wrong** because dental care isn't a public good; it's excludable and rivalrous.
- **C is wrong** because external benefits, like better public health, don't explain non-essential treatments.
- **D is wrong** because a shortage of dentists wouldn't increase non-essential treatments—it would do the opposite.

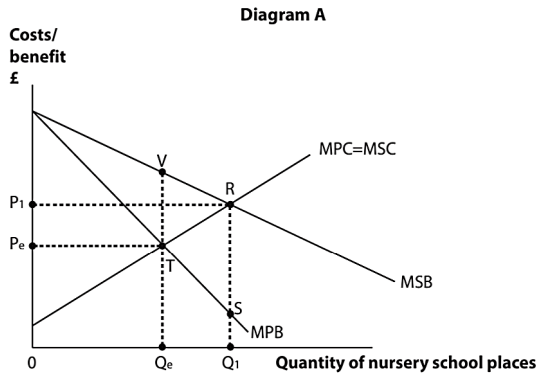
Externalities

Exam Style Question 1

1 (a) Define the term ‘external benefits’. **[1]**

Diagram A shows the market for nursery school places.

Diagram A



(b) Which **one** of the following measures could a government introduce to achieve the social optimum consumption of nursery school places?

It could introduce a:

[1]

- ◯ **A** Maximum price of 0P1 per unit
- ◯ **B** Subsidy of RS per unit
- ◯ **C** Tax of VT per unit
- ◯ **D** Minimum price of 0P1 per unit

(c) Annotate on Diagram A the welfare gain area and the new social optimum output resulting from successful government intervention in the market for nursery places. **[2]**

Externalities

Exam Style Question 1

Answer:

(a) Define the term 'external benefits':

External benefits are the positive effects enjoyed by third parties who are not directly involved in the production or consumption of a good or service. **[1]**

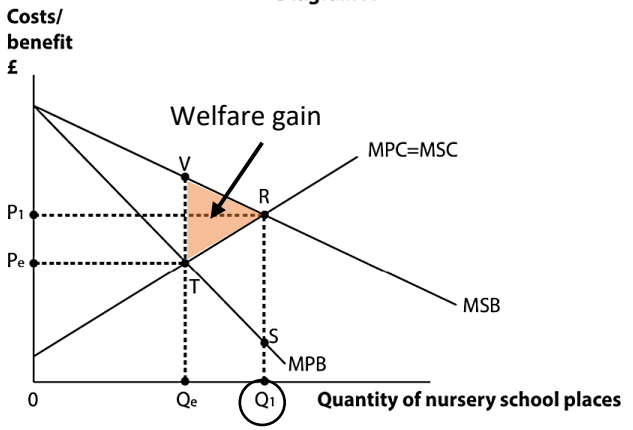
(b) Which one of the following measures could a government introduce to achieve the social optimum consumption of nursery school places?

The correct answer is **B - Subsidy of RS per unit**. **[1]**

Why? A subsidy lowers the cost for providers and encourages more consumption of nursery places, shifting the market closer to the socially optimal level.

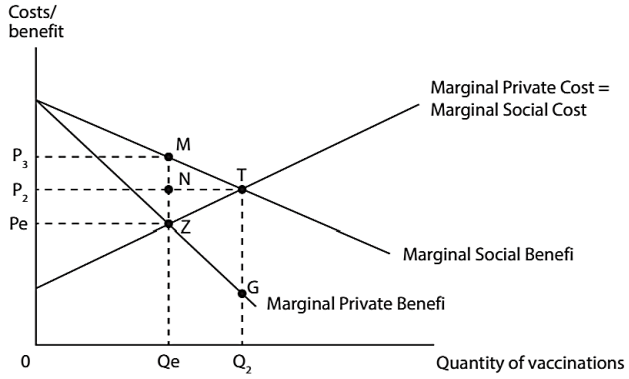
(c) Annotate on Diagram A the welfare gain area and the new social optimum output:

Diagram A



Externalities

Exam Style Question 2



The diagram shows the market for vaccinations. Assume there are no external costs. Which one of the following is true?

[1]

A: The free-market equilibrium quantity exceeds the social optimum quantity

B: At the free-market equilibrium quantity, marginal social cost exceeds marginal social benefits

C: An increase in quantity from the free-market equilibrium will lead to a net welfare gain

D: At the free-market equilibrium price there is an excess supply of vaccinations.

Answer ☐

Explanation [3]

Externalities

Exam Style Question 2

Answer:
C [1]

Definition: Welfare gain the excess of social benefit over social cost for a given quantity. **[1]**

Definition: External benefits are the positive effects enjoyed by third parties who are not directly involved in the production or consumption of a good or service. **[1]**

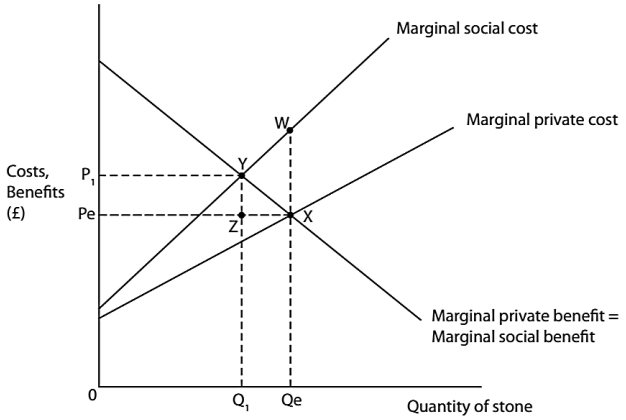
Application and Identification: If more vaccinations are provided, moving towards the **social optimum quantity (Q2)**, society as a whole benefits. The extra quantity creates a **welfare gain (MTZ)** because the additional benefits to society outweigh the costs of producing the vaccines. **[2]**

Rejection marks:

- **A is wrong** because the free market equilibrium (Qe) is **less** than the social optimum (Q2), not more. The market is underproducing due to the positive externality. **[1]**
- **B is wrong** since marginal social cost is Z (or Pe) which is less than marginal social benefit of M (or P_3). **[1]**
- **D is wrong** because at the free market equilibrium, supply equals demand, so there's no excess supply. The issue is under-consumption, not oversupply. **[1]**

Externalities

Exam Style Question 3



The diagram shows the market for the extraction of stone from a quarry. Assume there are no external benefits. Which of the following is true?

[1]

A: The social optimum quantity exceeds the free-market equilibrium quantity

B: The area of welfare loss at the free-market equilibrium is XYZ

C: A decrease in the quantity from Qe towards Q1 will reduce the net welfare loss

D: At the free-market equilibrium quantity, marginal social benefit exceeds marginal social cost.

Answer ☐

Explanation [3]

Externalities

Exam Style Question 3

Answer:
C [1]

Definition: Welfare loss the excess of social cost over social benefit for a given output. **[1]**

Definition: External costs are negative third-party effects or costs outside a market transaction that the price mechanism ignores, like the difference between social and private costs or negative spillover effects. **[1]**

Application and Identification: The diagram shows that stone extraction at Qe exceeds the socially optimal level, Q1, because producers ignore external costs like air pollution from the dust and damage to wildlife. Cutting production to Q1, where MSC equals MSB, eliminates waste and avoids unnecessary societal harm. **[2]**

Rejection marks:

- **A is wrong** since the social optimum equilibrium quantity Q1 is less than the free-market equilibrium quantity Qe. **[1]**
- **B is wrong** since welfare loss is area XWY. **[1]**
- **D is wrong** since at the free-market equilibrium marginal social benefit (X) is less than marginal social costs (Q). **[1]**

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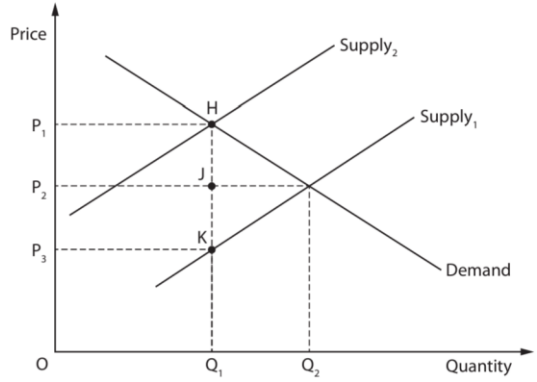
Exam Style Question 1 – Indirect Tax

The UK Government uses a range of indirect taxes to affect the market prices and quantities of many goods and services.

(a) In the diagram below, the government imposes a specific tax on a product. This shifts the supply curve from $Supply_1$ to $Supply_2$.



The government's tax revenue is shown by the area:

[1]

- ◯ **A** OP_1HQ_1
- ◯ **B** P_2P_1HJ
- ◯ **C** P_3P_1HK
- ◯ **D** P_3P_2JK

(b) Using an example, explain why the government imposes **specific** taxes on many goods and services. **[3]**

Government intervention in markets

Exam Style Question 1

Answer:
(a) C [1]

- **Option A:** Incorrect because OP_1HQ_1 is the total cost of the product plus tax revenue producers' share of the tax.
- **Option B:** Incorrect, because P_2P_1HJ is the consumers' share of the tax.
- **Option C:** Incorrect, because P_3P_2JK is the producers' share of the tax.

(b) Why does the government use specific taxes?

Definition: Specific tax is a fixed tax amount per unit of the product sold. **[1]**

Application:
Specific taxes are a way for governments to make people think twice before buying harmful stuff, like cigarettes or alcohol. These taxes, often called **"sin taxes,"** raise the price of harmful goods, reducing how much people buy. For instance, if cigarettes are taxed more heavily, fewer people might smoke, leading to better public health and lower NHS costs. **[1]**

Analysis:
Specific taxes also bring in money for the government, which can be spent on services like healthcare or education. **[1]**

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Exam Style Question 2 – Indirect Tax

In 2016 the average energy bill per household was £1070 per year, excluding VAT, an indirect tax charged at 5%.

(Source: adapted from ©Crown Copyright https://www.ofgem.gov.uk/publications-and-updates/infographic-bills-prices-and-profits)

(a) The amount of VAT paid per year from energy bills by an average household in 2016 was:

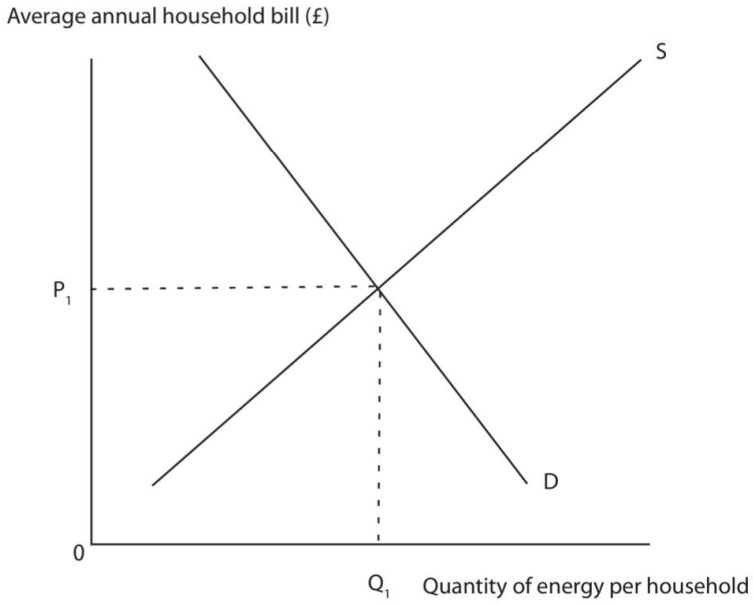
[1]

- ◯ **A** £53.50
- ◯ **B** £214.00
- ◯ **C** £1019.00
- ◯ **D** £1123.50

Government intervention in markets

Exam Style Question 2

(b) On the diagram below annotate the effect of a rise in VAT on the market for household energy use. **[2]**



(c) Define the term 'indirect tax'. **[1]**

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Government intervention in markets

Exam Style Question 2 – Indirect Tax

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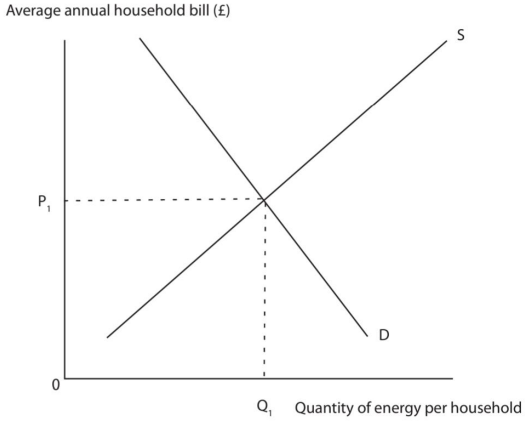


(c) Define the term 'indirect tax'. **[1]**

Government intervention in markets

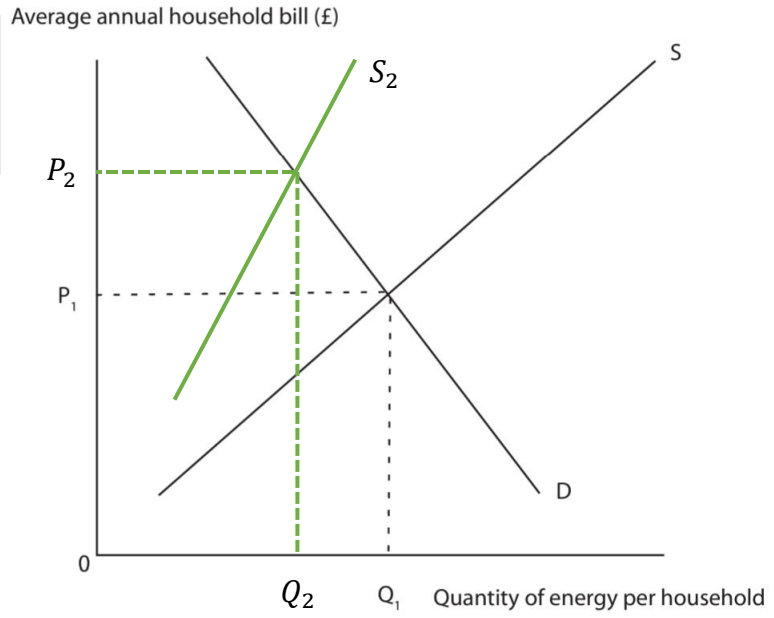
Exam Style Question 2

Answer:
(a) A [1]

The VAT paid per year can be calculated as 5% of the annual energy bill, which is £1,070.

$$VAT\ paid = \frac{5}{100} \times 1070 = 53.50$$

(b) On the diagram below annotate the effect of a rise in VAT [2]:



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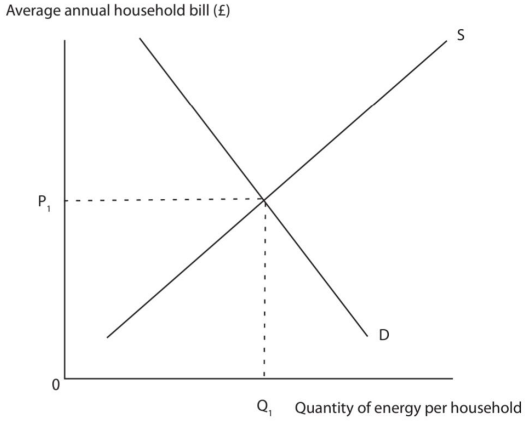


(c) Define the term 'indirect tax'. **[1]**

Exam Style Question 2

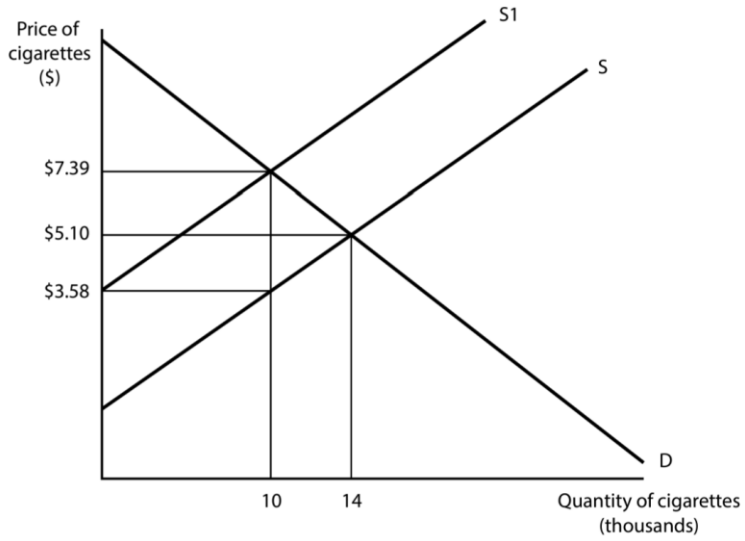
Answer:

(c) Define the term 'indirect tax'.

An **indirect tax** is a tax on goods or services imposed on producer by the government but often passed on to consumers through higher prices. **[1]**

Exam Style Question 3 – Indirect Tax

Hawaii has a tax on packets of cigarettes. The diagram below shows the effect of this tax.



(a) The tax imposed on a packet of cigarettes in the diagram above is an example of:

[1]

- ◯ **A** An income tax
- ◯ **B** A subsidy
- ◯ **C** A specific tax
- ◯ **D** An ad valorem tax

Government intervention in markets

Exam Style Question 3

(b) Calculate the total incidence of the tax on consumers. You are advised to show your working. **[2]**

(c) Calculate the total tax revenue. You are advised to show your working. **[2]**

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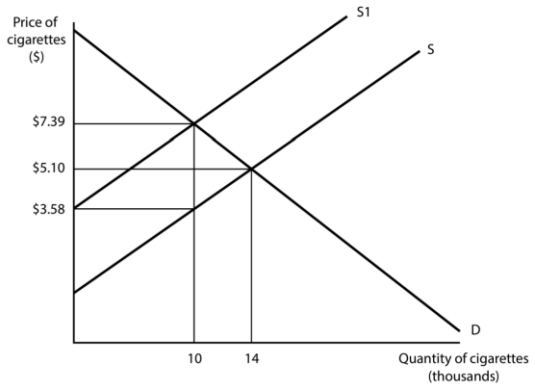
Exam Style Question 3 – Indirect Tax

Hawaii has a tax on packets of cigarettes. The diagram below shows the effect of this tax.



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[1]

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- ◯ **B** A subsidy
- ◯ **C** A specific tax
- ◯ **D** An ad valorem tax

(b) Calculate the total incidence of the tax on consumers. You are advised to show your working. **[2]**

(c) Calculate the total tax revenue. You are advised to show your working. **[2]**

Exam Style Question 3

Answer:
(a) C [1]

(b) Calculate the tax incidence on consumers

- The tax paid by consumers is the difference in price they now pay, which is the gap between **$7.39** (new price) and **$5.10** (old price).
- So, **tax per packet paid by consumers = $7.39 – $5.10 = $2.29**. **[1]**
- Quantity sold after tax is **10,000 packets** (from the graph).

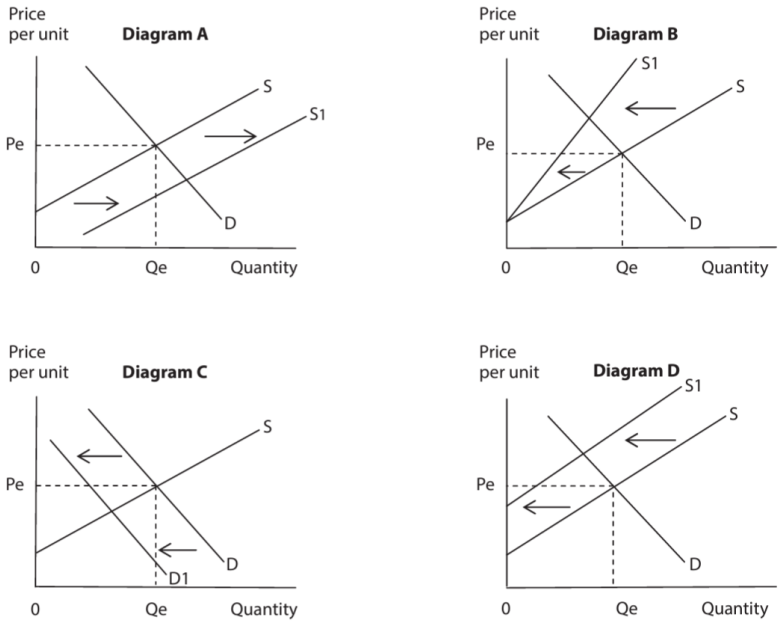
Total consumer tax incidence = $2.29 × 10,000 = $22,900 [1]

(c) Calculate the total tax revenue

- The total tax revenue comes from **the entire tax amount per packet ($7.39 – $3.58 = $3.81)** multiplied by the **quantity sold (10,000 packets)**. **[1]**

Total tax revenue = $3.81 × 10,000 = $38,100 [1]

Exam Style Question 4 – Indirect Tax



In September 2012, the Spanish Government increased the sales tax (VAT) on goods such as clothing to 21%. Which of the diagrams, labelled A, B, C and D, best illustrates the effects of the increase in sales tax? (You may annotate the relevant diagram in your answer.)

[1]

Answer ☐

Explanation [3]

Exam Style Question 4

Answer:
B [1]

Explanation:
When the Spanish Government increased the VAT to 21%, it acted like a tax on producers. This is an indirect tax (ad valorem tax) imposed by the government. **[1]**

This pushed the supply curve to the left and is non-parallel (from **S** to **S1**) because it increased the cost of providing goods. The price consumers pay went up (to a new higher equilibrium price), while the quantity of goods sold decreased. **[2]**

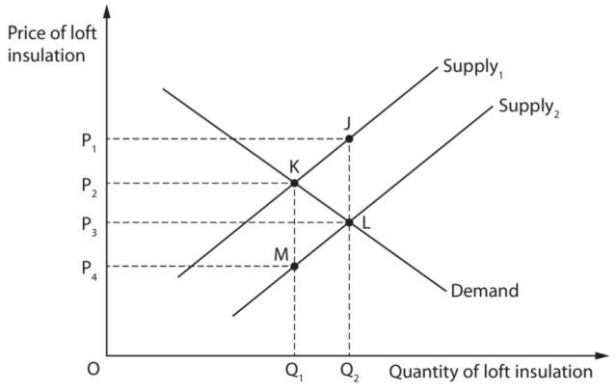
Rejection marks:

- **Option A:** Incorrect since an outward shift of the supply curve would be the result of a subsidy. **[1]**
- **Option C:** Incorrect because a tax imposed on a good adds to the supply price, so shifting the supply curve rather than the demand curve. **[1]**
- **Option D:** Incorrect since this is the effect of a specific tax which causes a parallel shift in the supply curve. **[1]**

Exam Style Question 5 – Subsidies

The 'Energy Company Obligation' is the government's term for its programme to make houses in the UK more energy efficient.

In the diagram below, the government grants a subsidy to energy suppliers to install loft insulation. This shifts the market supply curve for loft insulation from $Supply_1$ to $Supply_2$.



The total amount spent by the government on subsidies is represented by the area:

[1]

- ◯ **A** OP_1JQ_2
- ◯ **B** OP_3LQ_2
- ◯ **C** P_3P_1JL
- ◯ **D** P_4P_2KM

Government intervention in markets

Exam Style Question 5

Answer:
C [1]

Other options:

- **Option A:** Incorrect since the supply curve shift has been ignored.
- **Option B:** Incorrect because this is the cost to the consumer.
- **Option D:** Incorrect since this is the total amount received by the producer.

Government intervention in markets

Exam Style Question 6 – Subsidies

In 2015 the UK government cut subsidies for the installation of solar energy panels.

(a) Define the term 'subsidies'. **[1]**

(b) The most likely effect of cutting subsidies for the installation of solar panels is to:

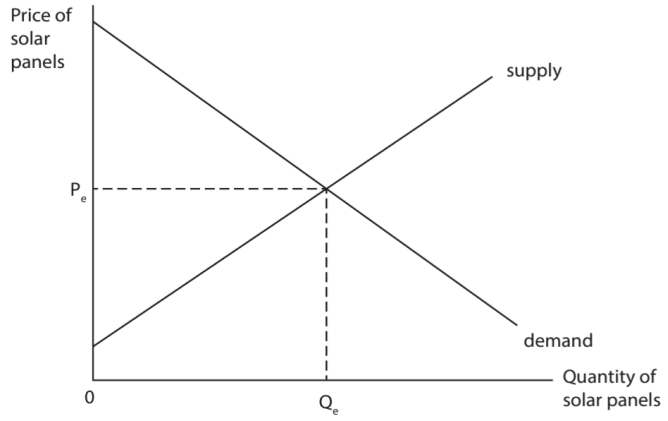
[1]

- ◯ **A** Increase producer surplus
- ◯ **B** Decrease the provision of public goods
- ◯ **C** Decrease consumer surplus
- ◯ **D** Increase government expenditure

(c) Annotate the diagram below to show the effect of removing the solar panel installation subsidy on the equilibrium price and quantity.

[2]

Solar panel installation market diagram



Government intervention in markets

Exam Style Question 6

Answer:

(a) Define the term 'subsidies'.

Subsidies are government grants to help reduce costs for producers or consumers, making goods or services cheaper and encouraging their production or use. **[1]**

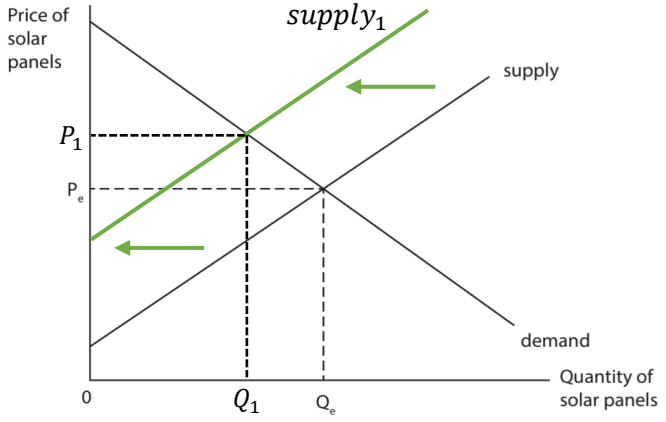
(b) The most likely effect of cutting subsidies for the installation of solar panels is:

Answer: C **[1]**

Explanation: Without subsidies solar panels become more expensive, meaning fewer people can afford them (lower consumer surplus).

(c) Annotate the diagram to show the effect of removing the subsidy.

Solar panel installation market diagram



Exam Style Question 7 – Subsidies

In 2011 the UK Government introduced a unit subsidy of £5000 for new electric powered cars such as the Nissan Leaf and Mitsubishi-MiEV. The most likely effect is to increase.

[1]

- ◯ **A** The demand for petrol powered cars.
- ◯ **B** Carbon emissions from non-electric powered cars.
- ◯ **C** The demand for bus transport.
- ◯ **D** The supply of electric powered cars.

Answer ☐

Explanation [3]

Government intervention in markets

Exam Style Question 7

Answer:
D [1]

Explanation:

Definition: Subsidies are government grants to help to increase production of a good or service. **[1]**

The government gave a £5000 subsidy for electric cars, reducing costs of production and make them cheaper to purchase. **[1]** With lower costs, car manufacturers had more incentive to make electric cars, increasing their supply. This shift was aimed at encouraging greener travel and cutting down on carbon emissions from petrol-powered vehicles. **[1]**

Rejection marks:

- **Option A or C:** Incorrect as petrol powered cars or bus travel are substitutes. **[1]**
- **Option B:** Incorrect since demand for electric cars will rise due to the subsidy causing a fall in price. **[1]**

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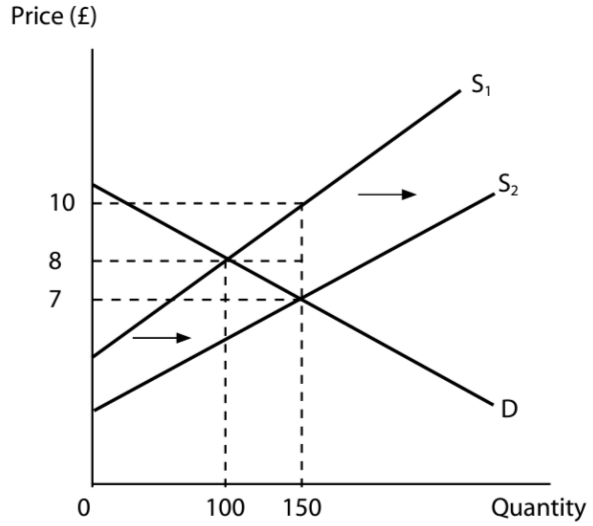
Exam Style Question 8 – Subsidies



The diagram illustrates the effect of a government subsidy on a good. The total government expenditure on the subsidy will be:

[1]

- ◯ **A** £100
- ◯ **B** £150
- ◯ **C** £450
- ◯ **D** £1,050

Answer ☐

Explanation [3]

Government intervention in markets

Exam Style Question 8

Answer:
C [1]

Explanation:

Definition: Subsidies are government grants to help reduce costs for producers or consumers, making goods or services cheaper and encouraging their production or use. **[1]**

The subsidy reduces the price from £10 to £7 (a £3 subsidy per unit). The quantity of goods supplied increases from 100 to 150 units. To find the total government expenditure:

- Multiply the subsidy per unit (£3) by the total number of subsidised units (150).
- £3 × 150 = £450. **[2]**

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Exam Style Question 9

In 2010 the Scottish Government proposed a legal minimum price per unit of alcoholic drink. Other things being equal, a minimum price set above the market equilibrium price is likely to cause

[1]

A: an excess supply

B: a fall in price

C: an increase in consumption

D: no effect in the market

Answer ☐

Explanation [3]

Government intervention in markets

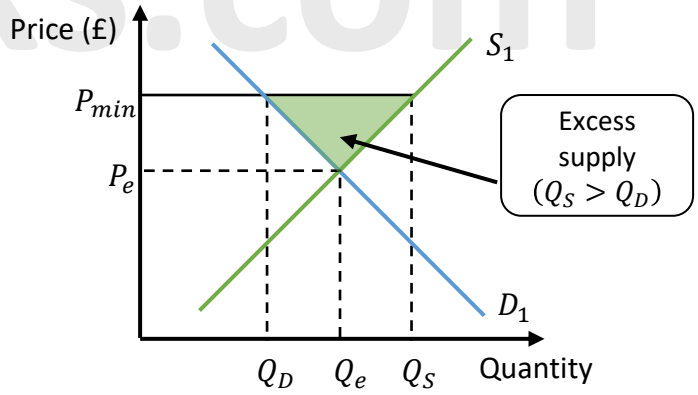
Exam Style Question 9

Answer:
A [1]

Explanation:

Definition: Minimum price is the lowest price a good is allowed to be sold for and is set by the government. **[1]**

If the government sets a minimum price above the market equilibrium, sellers are happy to produce and sell more because they get a higher price. But consumers aren't as keen to buy at this higher price, so demand drops. Therefore, the supply exceeds the demand, and we get **excess supply. [2]**



Or diagram showing the minimum price and excess supply [2]

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Government intervention in markets

Exam Style Question 10

Which of the following methods of government intervention could help correct market failure?

[1]

A: State provision of healthcare

B: Taxation of goods which yield high external benefits

C: Abolition of the tradable pollution permit scheme

D: Provision of subsidies to goods which yield high external costs.

Answer ☐

Explanation [3]

Government intervention in markets

Exam Style Question 10

Answer:
A [1]

Explanation:

Definition: Market failure occurs when the price mechanism causes an inefficient allocation of resources; the forces of demand and supply lead to a net welfare loss in society. **[1]**

Application: Market failure happens when the free market doesn't provide enough of something beneficial (like healthcare) or provides too much of something harmful (like pollution). For example, external benefits like the positive effects of healthcare may be ignored by the market, causing under-provision and issues like increased illness or reduced productivity. **[1]**

Government intervention, such as taxing incomes to fund free healthcare, addresses these failures and ensures resources are allocated more efficiently to improve societal welfare. **[1]**

Rejection marks:

- **Option B:** Incorrect since the government should subsidise a good which yields external benefits as there is under-consumption. **[1]**
- **Option C:** Incorrect since abolition of tradable permits will increase pollution. **[1]**
- **Option D:** Incorrect since the government should tax goods which yield high external costs as there is over-consumption. **[1]**

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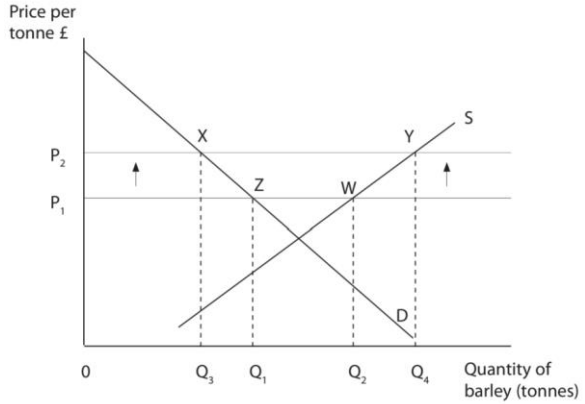
Exam Style Question 11



The diagram shows the European Union (EU) barley market, where a minimum price scheme operates. The EU guarantees to purchase any surplus output at the minimum price. Initially the minimum price is at OP_1 and the EU purchases Q_1Q_2 of barley. If the minimum price is increased to OP_2 which of the following is correct

[1]

A: Producer surplus decreases

B: Excess demand for barley increases

C: EU spending on the minimum price scheme for barley increases

D: Output of barley decreases.

Answer ☐

Explanation [3]

Government intervention in markets

Exam Style Question 11

Answer:
C [1]

Explanation:

Definition: Minimum price is the lowest price a good is allowed to be sold for and is set by the government. **[1]**

Application: The EU has set a minimum price for barley (P_1), meaning farmers are guaranteed a price above the normal market equilibrium. At this price government spending on barley is Q_1Q_2WZ. **[1]**

When this minimum price increases to P_2, farmers produce even more barley (Q_4), but consumers demand less (Q_3). This creates a bigger surplus. The EU promises to buy this surplus, so they're now purchasing Q_3 to Q_4 of barley. Therefore, new government spending on barley is Q_3Q_4YX. **[1]**

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Exam Style Question 12 – Tradable pollution

The EU tradable pollution permits scheme is expected to become more effective by 2020, due to recent reductions in the number of tradable pollution permits.

(Source adapted from: https://ec.europa.eu/clima/policies/ets_en)

(a) Explain **one** likely effect of reducing the number of tradable pollution permits. **[4]**

(b) Regulation of firms that pollute is likely to be a problem because it

[1]

- ◯ A Allows firms to use price signals
- ◯ B Creates unintended consequences
- ◯ C Fills information gaps for businesses
- ◯ D Means lower administrative costs

Government intervention in markets

Exam Style Question 12

Answer:

(a) Explain one likely effect of reducing the number of tradable pollution permits:

If the EU reduces the number of pollution permits, there are fewer permits for firms to buy, so the price of each permit will increase. **[1]** This makes it much more expensive for businesses to pollute. **[1]** This encourage firms to cut down on emissions by switching to cleaner, greener alternatives instead of paying for expensive permits. **[1]** This can lead to a big environmental win, as overall pollution levels are likely to fall. However, it might increase costs for businesses, which could lead to higher prices for consumers. **[1]**

(b) Regulation of firms that pollute is likely to be a problem because it:

Answer: B – creates unintended consequences **[1]**

Why B? Regulations can sometimes backfire. For example, firms might look for loopholes or shift operations to countries with looser rules (a practice called "regulatory arbitrage"). This could reduce the intended environmental benefits of the policy while adding complications.

Option A: incorrect because regulation may cause the distortion of price signals as a problem.
Option C: incorrect because regulation may result in the problem of information gaps.
Option D: incorrect as regulation may result in the problem of excessive administrative costs.

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Exam Style Question 13 – Tradable Pollution

Tradable pollution permits would be more effective in reducing carbon dioxide emissions within the European Union (EU) if:

[1]

A: There is an excess supply of pollution permits

B: Major polluting industries such as air travel are excluded from the carbon trading system

C: It is difficult to monitor and prosecute firms for exceeding their pollution permits

D: The EU is prepared to decrease the supply of pollution permits if the price falls too low.

Answer ☐

Explanation [3]

Government intervention in markets

Exam Style Question 13

Answer:
D [1]

Definition: Tradable pollution permits are given out by the government to firms as an allowance on the amount of pollution the firm may emit. These permits can be bought and sold in the market. **[1]**

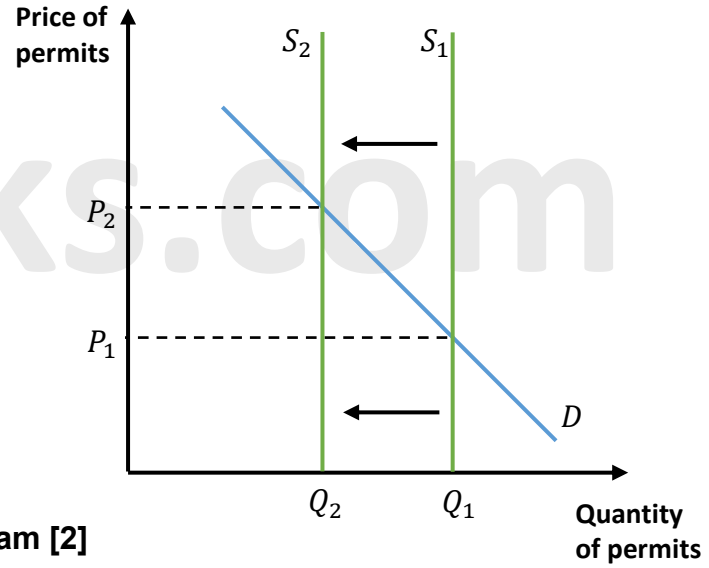

Diagram [2]

By reducing the number of permits (like the EU plans to do), prices stay higher, and firms are pushed to innovate and cut pollution to avoid costly permits. **[1]**

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Exam Style Question 14 – Tradable Pollution

The European Union Carbon Emissions Trading Scheme permitted the power, cement, steel. Oil and paper industries to emit up to 1.9 billion tonnes of carbon dioxide in 2008. The purpose of the scheme is to:

[1]

A: fine companies which pollute up to their allowances

B: reduce market failure from the major carbon polluting industries

C: tax companies which pollute up to their allowances

D: prevent industries from buying and selling carbon permits between themselves

Answer ☐

Explanation [3]

Government intervention in markets

Exam Style Question 14

Answer:
B [1]

Definition: Market failure occurs when resources are not allocated efficiently, leading to a loss in society's welfare. **[1]**

Explanation: One key reason for this failure is external costs, like pollution, which harm society but aren't accounted for in market prices. **[1]**

Application: The EU Carbon Emissions Trading Scheme tackles this by limiting the total carbon emissions from industries. It does this through tradable permits, which set a cap on pollution. By restricting pollution, the scheme helps reduce the negative impact (external costs) of these industries, improving welfare overall. **[1]**

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Government failure

Exam Style Question 1

HS2 is a high-speed rail network linking the north and south England. HS2 will be four years late and cost double the Department for Transport's original estimate.

(Source: https://www.transportxtra.com/publications/local-transport-today/news/58459/hs2-will-be-four-years-late-and-cost-double-the-dft-s-estimate-mps-told)

Define the term 'government failure'. **[1]**

Government failure

Exam Style Question 1

Answer:

Definition: Government failure occurs when government intervention in the economy causes a net welfare loss in economic welfare. **[1]**

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Government failure

Exam Style Question 2

In 2007, a packet of cigarettes priced at £5.30 included £4.13 of tax. The high level of tax on cigarettes may lead to **government failure** if:

[1]

A: some people continue to purchase cigarettes

B: the tax revenue generated from cigarettes meets the cost of treating smokers on the National Health Service

C: cigarette smuggling is encouraged

D: the marginal social cost exceeds the marginal private cost from cigarette smoking

Answer ☐

Explanation [3]

Government failure

Exam Style Question 2

Answer:

C – Cigarette smuggling is encouraged **[1]**

Definition: Government failure occurs when government intervention in the economy causes a net welfare loss in economic welfare. **[1]**

Explanation: When taxes on cigarettes are super high, like in this case (£4.13 of tax on a £5.30 packet), it can lead to unintended consequences, also known as government failure. Instead of discouraging smoking, some people might turn to illegal means, like smuggling, to avoid the hefty taxes. **[1]**

This undermines the government's goal of reducing smoking and may create a black market, costing the government tax revenue and causing other issues. **[1]**

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Please see the ‘2. The role of markets Revision Notes’ pack for detailed notes.

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