4 A consumer maximises his total utility by initially buying 10 units of good X and 10 units of good Y.

Assuming both goods are normal, what would cause this utility-maximising consumer to purchase more of good Y and less of good X?

A an increase in the marginal utility of good Y

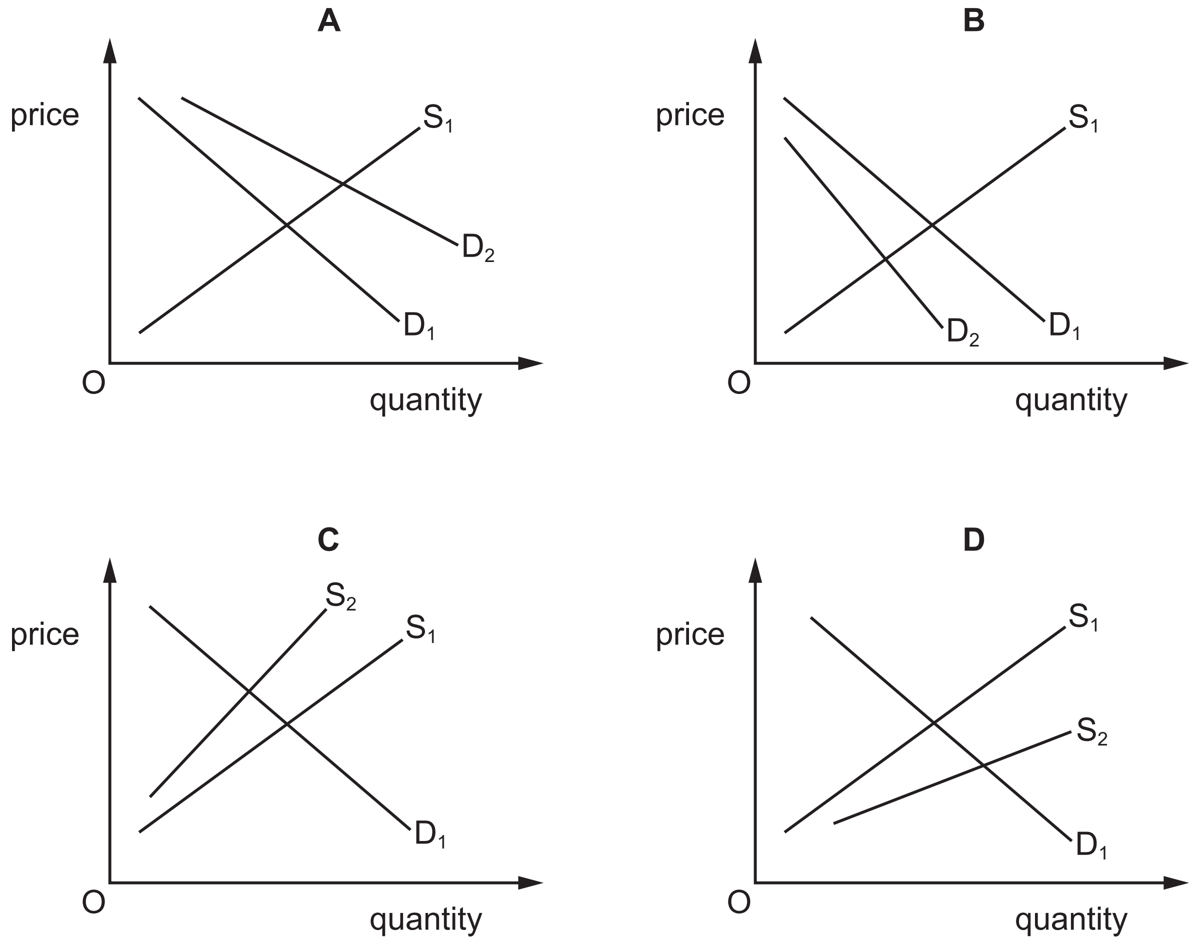
B an increase in the price of good Y

C an increase in the tax on the consumption of good Y

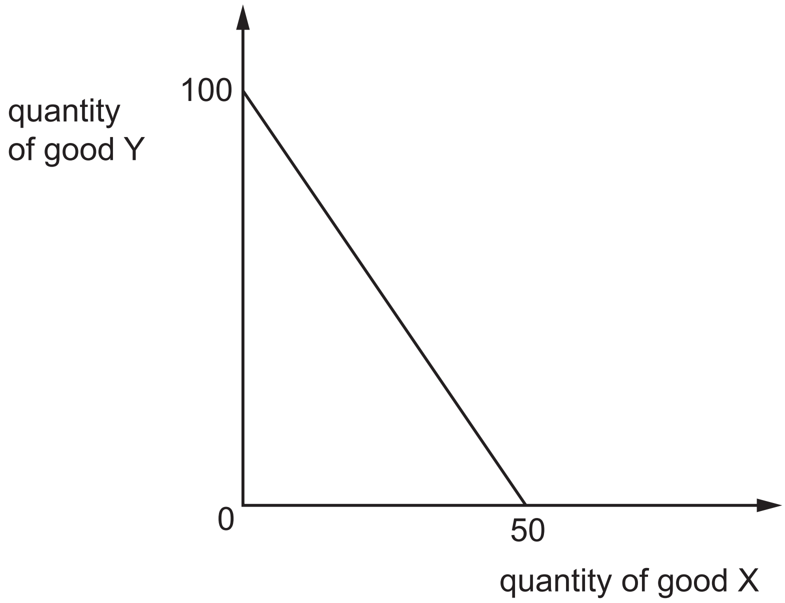
D an increase in the tax on the income of consumers

8 The diagrams show the demand curve, D_1, and the supply curve, S_1, for a good that has a sales tax of 10% applied to the final selling price.

Which diagram shows the impact of a reduction in the rate of sales tax to 5%?



2 The diagram shows a consumer's budget line.



What determines the slope of the budget line?

A the marginal rate of substitution of good X for good Y

B the price of good X multiplied by the price of good Y

C the ratio of the price of good X to the income of the consumer

D the ratio of the price of good X to the price of good Y

6 A firm sells 10 000 units per month at a price of $10. The firm's total fixed cost is $40 000 per month. The firm makes only normal profit.

What is the average variable cost for this output?

A $2.00 **B** $4.00 **C** $6.00 **D** $8.00

8 Assuming there are no externalities, where would a nationalised firm set output to maximise social welfare?

A where average revenue equals average cost

B where average revenue equals marginal cost

C where marginal revenue equals marginal cost

D where marginal revenue is zero

1 **Resources in Brazil**

Between 2000 and 2020, Brazilian GDP, measured in US dollars ($), rose from $1.19 trillion to $1.89 trillion at constant prices (2015). In the same period GDP per head rose from $6745 to $8204 at constant prices (2015).

The strength of the Brazilian economy lies in the variety and quantity of its natural resources. For example, Brazil is one of the world's largest exporters of agricultural commodities, mainly soya and beef. There are also significant exports of minerals. Brazil is the second largest iron ore producer in the world and extracts 3.4% of the world's crude oil.

World agricultural markets are dominated by four large commodity traders that buy and sell products such as grain and soya. They have grown through both horizontal integration and vertical integration. These traders own many large farms, they process farm produce and transport it to trade on international markets. In addition to buying and selling, the traders provide seed and fertiliser to farmers and supply storage for their products. They use agricultural by-products to produce items like biofuel. These traders also provide financial services to these markets.

Commodity traders are very important to the development of complex global food markets. Food prices, access to scarce resources such as land and water, climate change and food security are all affected by the activities of traders. In Brazil, the output of 15000 farmers is purchased by a single trader.

In Brazil the development of agriculture, mining and oil extraction all contribute to environmental degradation. Both agriculture and mining have been accompanied by deforestation of the Amazon rainforest. Access roads to mining areas also lead to deforestation. Waste water from mining activity is frequently stored in reservoirs behind dams. On two occasions in the last 10 years these dams failed to hold back the water. This led to widespread flooding, the discharge of pollutants such as mercury into rivers, and deaths.

Sources: The Guardian*, 23 August 2022*
Cereal Secrets, Oxfam Research Report, August 2012
oec.world/en/profile, August 2023

(a) Explain the significance of measuring GDP at constant prices. [3]

(b) Explain **one** possible benefit of horizontal integration and **one** possible benefit of vertical integration. [4]

(c) Describe how the market structure in which individual farmers operate is likely to differ from the market structure in which the commodity traders operate. [6]

(d) Use the article to evaluate the impact of the development of the agricultural and mining industries on the standard of living in Brazil. [7]

Section B

Answer **one** question.

EITHER

1 **Market Economies**

From Adam Smith onwards, most economists have regarded competitive markets as the main mechanism of economic activity. They argue that the interaction between producers and consumers can lead to both allocative efficiency and productive efficiency.

It can, however, be questioned whether the market automatically produces the best solution. Sometimes there are significant reasons for governments to intervene in a market in order to produce a better outcome than market forces alone. These situations are market failures.

When producing goods and services firms consider the private costs they pay and private benefits they receive. For example, a steel producer accounts for the cost of iron ore, fuel, labour and administration. It offsets these costs against the revenue from selling the steel. However, those people who live near the steelworks suffer the consequences of the noise, dirt and polluted air generated as part of the production process. Similarly, in many areas the extraction of iron ore can lead to environmental destruction such as the degradation of ground water for domestic consumption and a reduction in the variety of wildlife and flowers.

Competitive markets as envisaged by economists, however, may not exist. Firms may integrate to gain the benefits of economies of scale, to realise their ambition to rule the market or to increase their market share. Such integration might lead to the development of a monopoly market structure. Many believe that a monopoly always operates against the interests of the consumer because of its lack of efficiency. As a result, governments often restrict the operation of monopolies.

(a) Explain the meaning of ‘allocative efficiency and productive efficiency’. [4]

(b) **(i)** Explain what is meant by a negative production externality. [2]

(ii) Identify from the extract a negative production externality resulting from steel production. [1]

(iii) Explain, with the aid of a diagram, the consequences for output and price if the steel market is required to take into consideration negative production externalities. [5]

(c) Consider whether ‘a monopoly always operates against the interests of the consumer’. [8]

Section B

Answer **one** question.

EITHER