2025

AP® Microeconomics

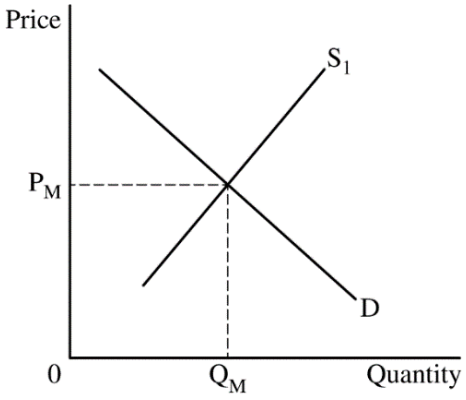
Scoring Guidelines
Set 2

Question 1: Long — 10 points

A

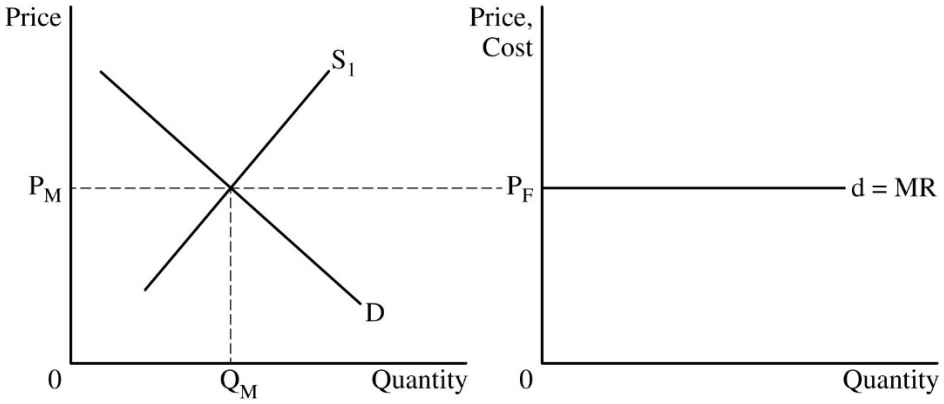
Point 1

Draw a correctly labeled graph of the market for wooden desks with a downward-sloping demand (D) curve and an upward-sloping supply (S_1) curve and label the market equilibrium price as P_M and the market equilibrium quantity as Q_M. **1 point**



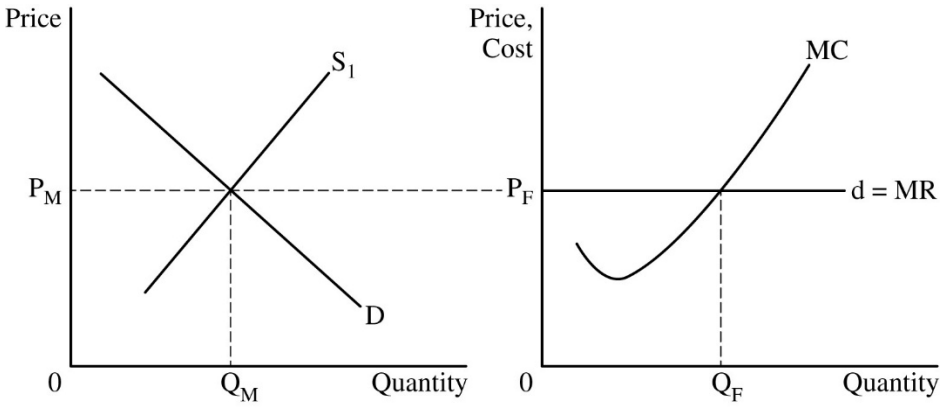
Point 2

Draw a correctly labeled graph for Deskward that shows the firm's horizontal demand and marginal revenue (d = MR) curve extended from the market equilibrium price (P_M) and label the firm's price as P_F. **1 point**

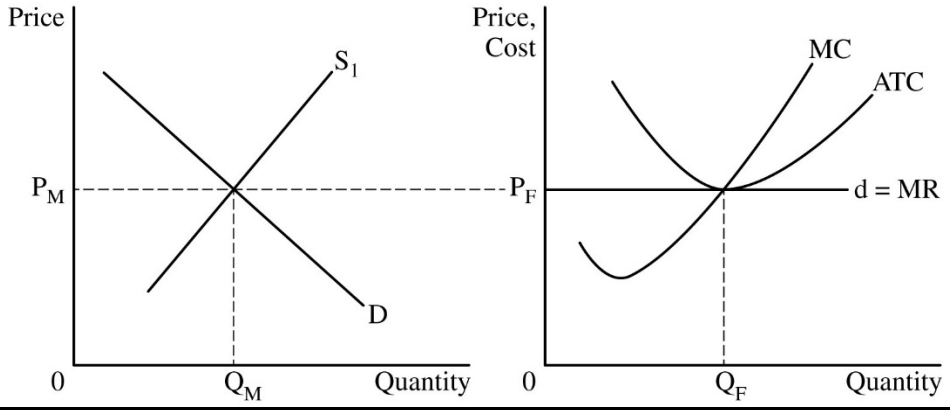


Point 3

The firm's graph must show a rising marginal cost (MC) curve, and show the firm's profit-maximizing quantity, labeled Q_F, where MR = MC. **1 point**

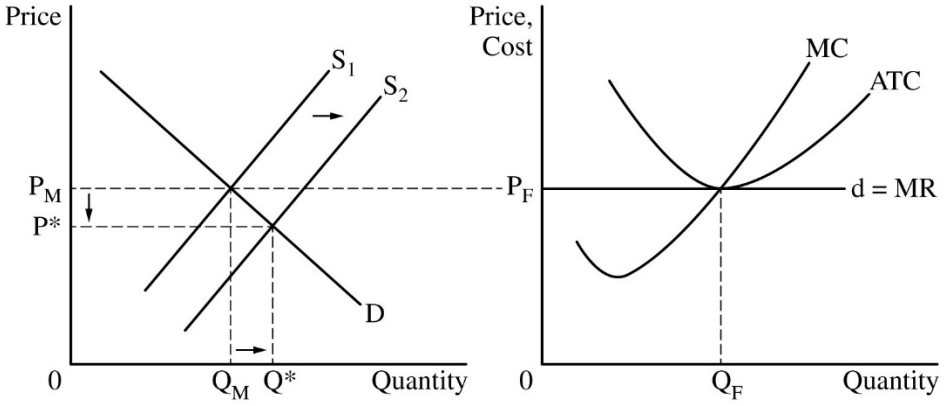


Point 4	The firm's graph must show the average total cost (ATC) curve tangent to the firm's d = MR curve at Q_F and show the MC curve passing through the minimum point of the ATC curve.	**1 point**

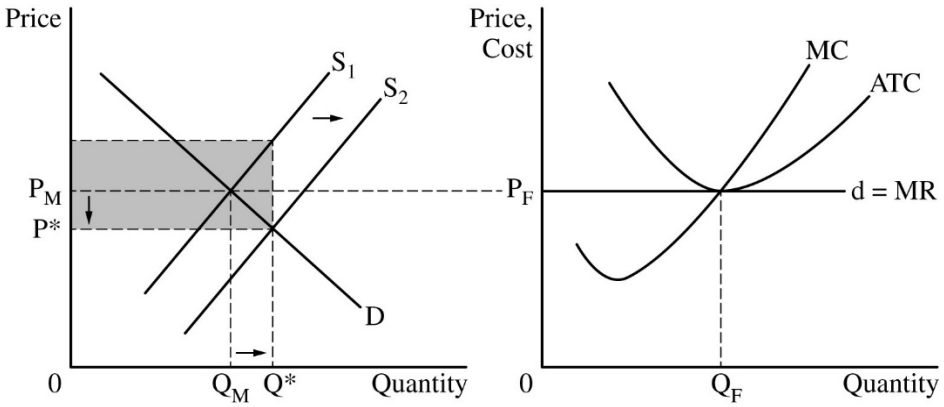


B Point 5	State that Deskward's profit-maximizing quantity will not change in the short run and explain that a change in a fixed cost does not affect the firm's marginal cost or marginal revenue.	**1 point**

C (i) Point 6	The market graph from part A must show a rightward shift of the market supply curve and show the new market equilibrium price of wooden desks, labeled P*, and the new market equilibrium quantity of wooden desks, labeled Q*.	**1 point**



(ii) Point 7	The market graph from part A must show the area representing the total cost of the subsidy to the government, shaded completely.	



D Point 8	State that the price floor will result in a surplus of wooden desks and explain that the binding price floor is set above the market equilibrium price, which causes the quantity supplied of wooden desks to be greater than the quantity demanded of wooden desks.	**1 point**
E **(i)** Point 9	Calculate the long-run average total cost (LRATC) as \$160 per chair and show your work. $\text{LRATC at } 500 \text{ chairs} = \frac{\$80{,}000}{500} = \$160$	**1 point**
(ii) Point 10	State that Deskward is experiencing diseconomies of scale and explain that as output increases from 500 to 600 chairs, its LRATC increases from \$160 to \$180 (=\$108,000/600) per chair.	**1 point**

Question 2: Short — 5 points

A Point 1	State that the profit-maximizing number of miners is 4.	**1 point**
B Point 2	State that Quartz Excavations will pay a wage rate that is less than $15 and explain that the wage rate paid by a monopsonist is determined by the supply of labor at the quantity of labor hired. Thus, the wage rate associated with the hiring of 4 miners is $10.	**1 point**
C Point 3	Calculate the total wage bill as $50 and show your work. $\text{Total Wage Bill} = \$25 \times 2 = \$50$	**1 point**
D (i) Point 4	State that the marginal revenue product of miners will increase and explain that the increase in demand for quartz will increase the price and marginal revenue of quartz.	**1 point**
(ii) Point 5	State that the marginal factor cost of the last miner hired will be greater than the marginal factor cost of the last miner hired before the increase in the demand for quartz.	**1 point**

Question 3: Short — 5 points

A Point 1	State that Lucy will maximize her total utility by consuming 5 units of Good X and 4 units of Good Y.	**1 point**
B Point 2	Calculate Lucy's total utility of consuming 2 units of Good X and 2 units of Good Y as 88 utils and show your work. $\text{Total Utility from consuming 2 units of Good X} = 20 \text{ utils} + 16 \text{ utils} = 36 \text{ utils}$ $\text{Total Utility from consuming 2 units of Good Y} = 28 \text{ utils} + 24 \text{ utils} = 52 \text{ utils}$ $\text{Total Utility from consuming 2 units of Good X and 2 units of Good Y} = 36 \text{ utils} + 52 \text{ utils} = 88 \text{ utils}$	**1 point**
C (i) Point 3	State that Lucy can purchase a maximum of 4 units of Good Y.	**1 point**
(ii) Point 4	State that Lucy's optimal consumption is 4 units of Good X and 3 units of Good Y and explain that at this combination, the marginal utility per dollar spent on the last unit of Good X is 4 utils/$ (= 8 utils/$2), and the marginal utility per dollar spent on the last unit of Good Y is 4 utils/$ (= 16 utils/$4) when Lucy spends her entire budget of $20 (= $2 × 4 units of Good X + $4 × 3 units of Good Y).	**1 point**
D Point 5	State that goods X and Y are substitute goods and explain that the cross-price elasticity of demand between Good X and Good Y is positive. A positive cross-price elasticity indicates that an increase (a decrease) in the price of Good X will increase (decrease) the demand; therefore, the quantity demanded of a substitute good, Good Y.	**1 point**