AP® Microeconomics
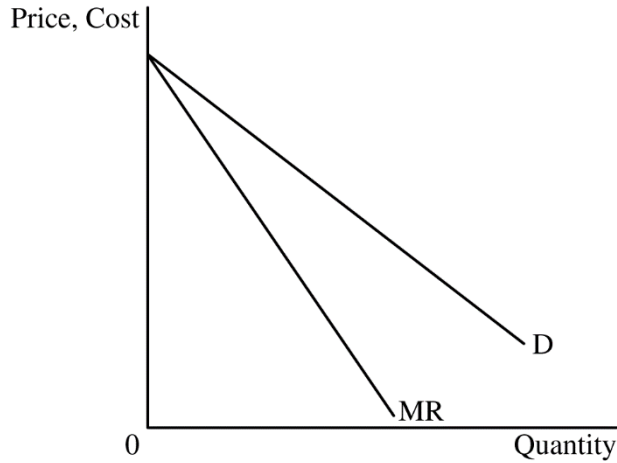## Scoring Guidelines
Set 1

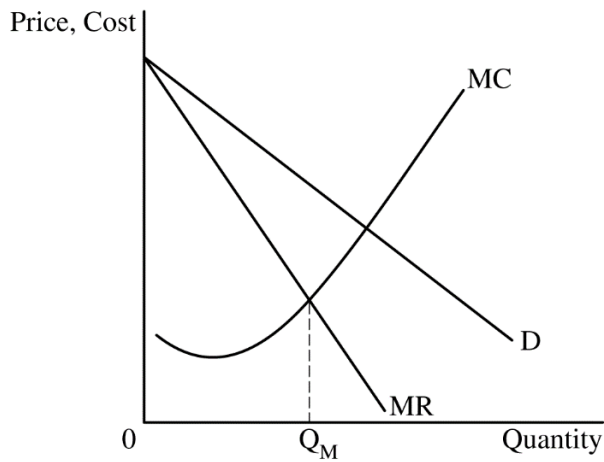## Question 1: Long   10 points

(a)   Draw a correctly labeled graph of a monopoly with a downward-sloping demand   **1 point**
(D) curve and a downward-sloping marginal revenue (MR) curve with the MR curve
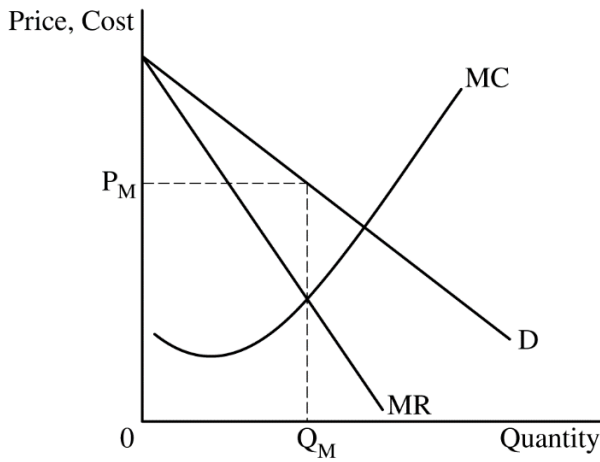below the D curve.

For the second point, the graph must show a marginal cost (MC) curve and the   **1 point**
profit-maximizing quantity, labeled Q_M, where MR = MC.

For the third point, the graph must show the profit-maximizing price, labeled P_M, from the demand curve at Q_M. **1 point**

Price, Cost

MC
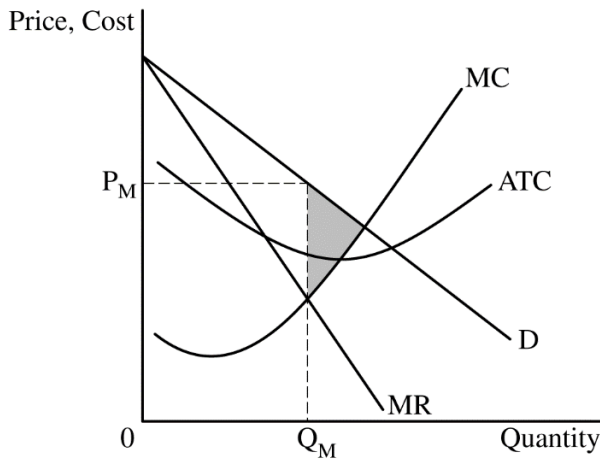
P_M

D

MR

0   Q_M Quantity

For the fourth point, the graph must show the average total cost (ATC) curve below P_M at Q_M and the MC curve passing through the minimum point of the ATC curve. **1 point**

Price, Cost

MC

P_M

ATC

D

MR

0   Q_M Quantity
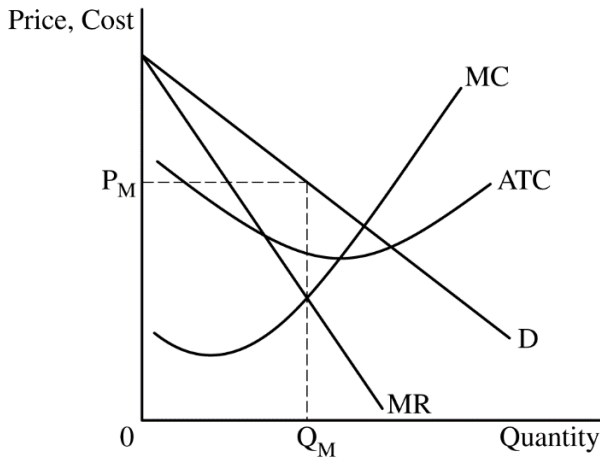
For the fifth point, the graph must show the area of the deadweight loss, shaded completely. **1 point**

| | Total for part (a) | 5 points |

| **(b)** | State that the government would impose a binding price ceiling. | **1 point** |

| **(c)** | State that the profit-maximizing quantity will decrease and explain that the demand for the device will decrease, causing the MR curve to shift to the left, intersecting the MC curve at a lower quantity. | **1 point** |

(d)(i)   Draw a correctly labeled graph of a perfectly competitive labor market with a   **1 point**
downward-sloping demand (D) curve and an upward-sloping supply (S) curve and
show the equilibrium wage and quantity of labor, labeled W_E and Q_E, respectively.
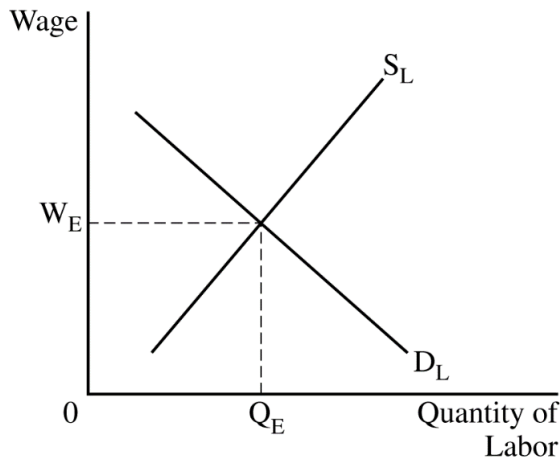
(d)(ii)   The graph from part (d)(i) must show a rightward shift in the labor supply curve,   **1 point**
resulting in a lower equilibrium wage rate, labeled W_2, and a higher equilibrium
quantity of labor, labeled Q_2.
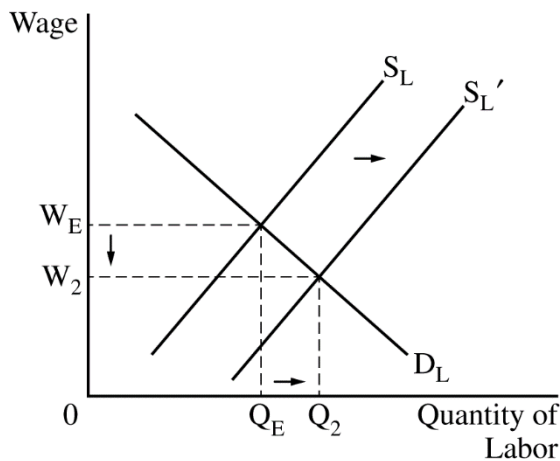
(d)(iii)   Calculate the wage rate as $200 and show your work.   **1 point**

$$\frac{\text{Marginal Product of Capital}}{\text{Rental Price}} = \frac{\text{Marginal Product of Labor}}{\text{Wage Rate}}$$

$$\frac{2,500}{\$500} = \frac{1,000}{\text{Wage Rate}}$$

Wage Rate $= \$200$

Total for part (d)	**3 points**

Total for question 1	**10 points**

Question 2: Short   5 points

(a)	State that Southland has a comparative advantage in producing wheat and explain that the opportunity cost of producing one bushel of wheat in Southland is 1/2 yard of cloth, which is less than the opportunity cost of producing one bushel of wheat in Northland, which is 3 yards of cloth.	**1 point**
(b)	Identify any specific number between 5 and 30 yards of cloth.	**1 point**
(c)	State no and explain that Southland's opportunity cost to produce one yard of cloth is 1.5 bushels of wheat, which is greater than Northland's opportunity cost of producing cloth, which is 1/3 of a bushel of wheat.	**1 point**
(d)(i)	State no, the market results in an inefficient allocation of resources and explain with **ONE** of the following: • The negative externality causes the marginal social cost to be greater than the marginal social benefit (MSC > MSB) at the market equilibrium. • The negative externality in production causes the marginal social cost to be greater than the marginal private cost (MSC > MPC) at the market equilibrium.	**1 point**
(ii)	State that a lump-sum tax will not change the market equilibrium price and quantity in the short run.	**1 point**
	Total for part (d)	**2 points**
	Total for question 2	**5 points**

Question 3: Short   5 points

(a)	Calculate the total fixed cost as $72 and show your work.	**1 point**

Total Fixed Cost = (Average Total Cost − Average Variable Cost) × Quantity

Total Fixed Cost = ($26 − $8) × 4 = ($18 × 4) = $72

OR

Total Fixed Cost = ($21 − $9) × 6 = ($12 × 6) = $72

OR

Total Fixed Cost = ($20 − $11) × 8 = ($9 × 8) = $72

(b)	Identify the price as $14 and the profit-maximizing quantity as 6 units.	**1 point**

(c)	Calculate Hansel Hangout's economic profit at the profit-maximizing quantity as −$42 and show your work.	**1 point**

Economic Profit = (Price − Average Total Cost) × Quantity

= ($14 − $21) × 6 units = (−$7 × 6) = −$42

OR

Economic Profit = Total Revenue − Total Cost

= ($14 × 6) − ($21 × 6) = $84 − $126 = −$42

(d)	State that the market price of Good X will increase in the long run and explain that some firms will exit the market due to the negative economic profits, causing the market supply curve to shift to the left, increasing the market equilibrium price.	**1 point**

(e)	State that the quantity demanded of Good C will increase and explain that a positive cross-price elasticity of demand indicates that the two goods are substitutes in consumption, and an increase in the price of Good X will increase the demand for Good C, causing an increase in the quantity demanded of Good C.	**1 point**

Total for question 3	**5 points**