AP® Microeconomics
2014 Scoring Guidelines

CollegeBoard

Question 1

10 points (3 + 1 + 3 + 1 + 2)
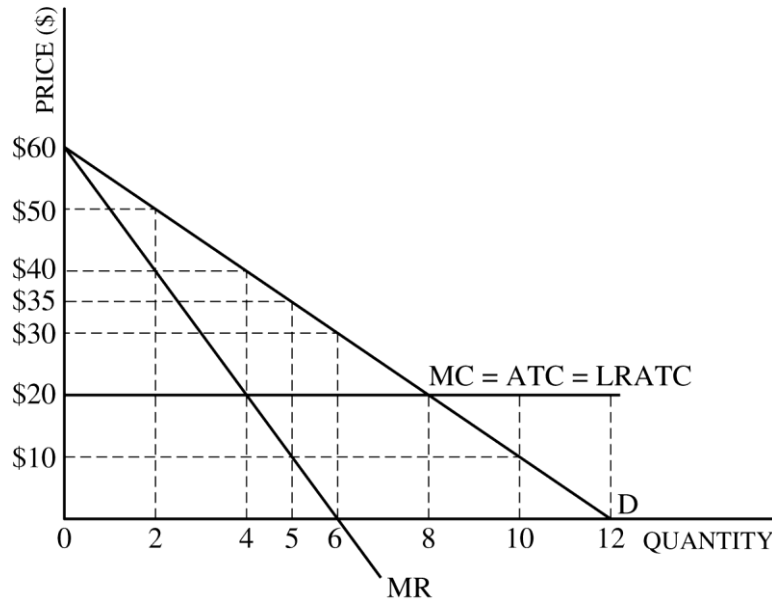
(a) 3 points:
- One point is earned for identifying the profit-maximizing quantity, Q = 4.
- One point is earned for identifying the profit-maximizing price, P = $40.
- One point is earned for identifying the allocatively efficient output, Q = 8.

(b) 1 point:
- One point is earned for stating that the firm is not experiencing economies of scale and for explaining that the LRATC is not downward sloping as output increases or LRATC remains constant as output increases.

(c) 3 points:
- One point is earned for correctly showing the calculation for the monopolist's economic profit.
    π = (P − ATC) × Q = ($10 − $20) × 10 = −$100
    Or loss of $100
    Other correct calculations are acceptable.

- One point is earned for correctly showing the calculation of consumer surplus.
    CS = 1/2 ($60 − $10) × 10 = $250
    Other correct calculations are acceptable.

- One point is earned for correctly showing the calculation of the deadweight loss.
    DWL = 1/2 ($20 − $10) × (10 − 8) = $10
    Other correct calculations are acceptable.

(d) 1 point:
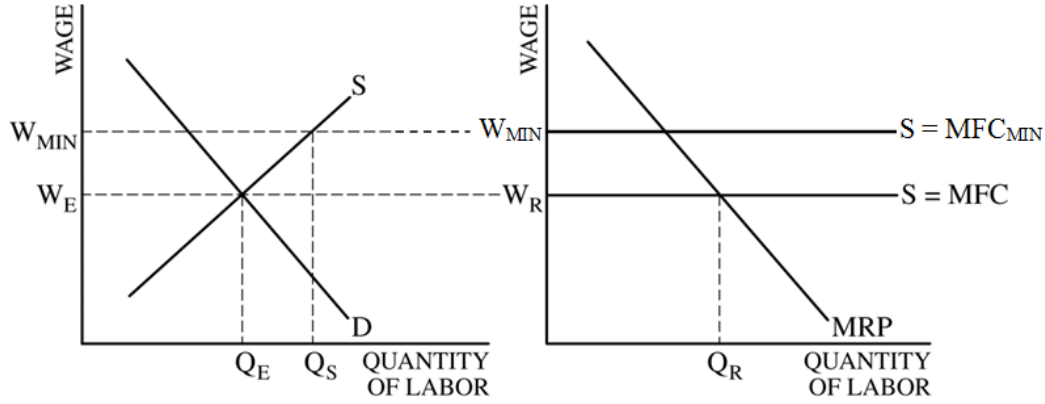- One point is earned for identifying the quantity at which demand is unit elastic, 6.

(e) 2 points:
- One point is earned for correctly determining the monopolist's profit.
  $1/2[(\$60 - \$20) \times 8] = \$160$
- One point is earned for correctly determining the consumer surplus as zero.

Question 2

6 points (2 + 1 + 3)

(a) 2 points:
- One point is earned for drawing a correctly labeled graph of the labor market with an upward-sloping labor supply curve and a downward-sloping labor demand curve and for correctly identifying the equilibrium wage, W_E, and quantity, Q_E.
- One point is earned for drawing a correctly labeled graph showing Ray's Stable demand curve for labor and a horizontal labor supply curve and showing the equilibrium wage, W_R, and quantity, Q_R.

(b) 1 point:
- One point is earned for stating that Ray's Stable's marginal factor cost is equal to W_E, and for explaining that the firm is a wage taker in the labor market and/or the market sets the wage.
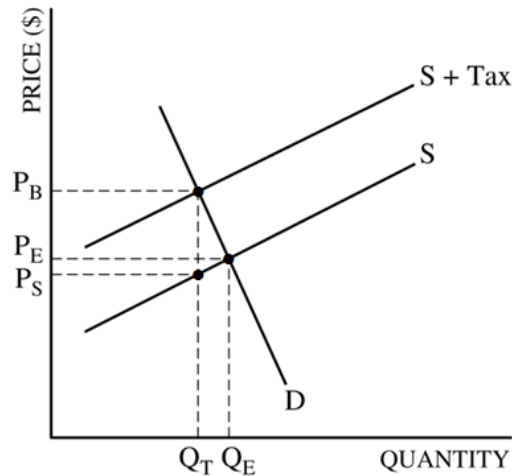
(c) 3 points:
- One point is earned for showing the minimum wage, W_{MIN}, on the graph in part (a) above the equilibrium wage W_E.
- One point is earned for showing the quantity supplied of unskilled labor, Q_S, derived from the supply curve at W_{MIN}.
- One point is earned for stating that the marginal revenue product of the last worker hired will increase.

Question 3

6 points (1 + 3 + 1 + 1)

(a) 1 point:
- One point is earned for drawing a correctly labeled graph of the gasoline market showing the equilibrium price, P_E, and quantity, Q_E.

(b) 3 points:
- One point is earned for showing P_B above P_E, derived from the D curve at Q_T.
- One point is earned for showing P_S below P_E, derived from the S curve at Q_T.
- One point is earned for showing Q_T less than Q_E.

  Note: It is not necessary to draw the S + Tax curve; a "tax wedge" approach is acceptable.

(c) 1 point:
- One point is earned for correctly calculating the total tax revenue based on the labeling of the graph.
  - All of the following are acceptable when P_B and P_S are correct:
    - $(P_B \times Q_T) - (P_S \times Q_T)$
    - $(P_B - P_S) \times Q_T$
    - $2 \times Q_T$
    - $\text{Tax} \times Q_T$

(d) 1 point:
- One point is earned for explaining that the tax burden will fall more on buyers and less on sellers because the demand curve is more inelastic than the supply curve.