The College Board

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Question 1

10 points \((3 + 1 + 2 + 2 + 2)\)

(a) 3 points:
- One point is earned for a correctly labeled graph of the market showing a downward-sloping market demand curve, an upward-sloping market supply curve, and \(P_m\) and \(Q_m\).
- One point is earned for showing the firm's profit-maximizing quantity, \(Q_f\), at \(MC = MR\) with a horizontal demand curve.
- One point is earned for showing the firm's average total cost (ATC) curve tangent to its demand curve at \(Q_f\).

(b) 1 point:
- One point is earned for stating that \(P_m\) is equal to \(P_f\).

(c) 2 points:
- One point is earned for showing a rightward shift of the market demand curve and showing \(P_{m2}\) and \(Q_{m2}\).
- One point is earned for showing the corresponding upward shift of the firm's demand curve and showing \(P_{f2}\) and \(Q_{f2}\).

(d) 2 points:
- One point is earned for stating that the number of firms increases because the existence of short-run profits attracts new firms to enter the industry.
- One point is earned for stating that the firm's ATC curve will shift upward.

(e) 2 points:
- One point is earned for stating that the long-run profit-maximizing price will be higher than \(P_f\).
- One point is earned for stating that the long-run profit-maximizing price will be lower than \(P_{f2}\).
Question 2

6 points \((3 + 2 + 1)\)

(a) 3 points:
- One point is earned for a correctly labeled market graph, showing the equilibrium price and quantity, \(P_m\) and \(Q_m\).
- One point is earned for showing a MSB curve above a MPB curve and for showing the socially optimal quantity, \(Q_s\).
- One point is earned for shading the area representing the deadweight loss.

(b) 2 points:
- One point is earned for showing an effective (binding) price ceiling below \(P_m\).
- One point is earned for stating that the price ceiling will increase the deadweight loss, because providers will decrease the quantity of education offered.

(c) 1 point:
- One point is earned for stating that the new equilibrium quantity will be greater than \(Q_m\).
Question 3

5 points $(1 + 1 + 3)$

(a) 1 point:
   - One point is earned for identifying the profit-maximizing quantity of labor as 100 units.

(b) 1 point:
   - One point is earned for identifying the wage rate TreeMart pays as $10.

(c) 3 points:
   - One point is earned for identifying the quantity of labor in a competitive labor market as 200 units.
   - One point is earned for identifying the quantity of labor, 150 units, given a minimum wage of $12.5.
   - One point is earned for explaining that the MFC curve (or the supply curve for labor) becomes horizontal at the minimum wage up to a quantity of 150.