Question 1

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

(a) 1 point:
- One point is earned for identifying the profit-maximizing price as $24. ($22 is also acceptable.)

(b) 1 point:
- One point is earned for identifying the profit per unit as $6.

(c) 1 point:
- One point is earned for stating that allocative efficiency is not achieved because price is not equal to MC or MC is not equal to demand.

(d) 1 point:
- One point is earned for stating that the demand is inelastic because total revenue increases as price increases from $16 to $18, or because the price elasticity of demand within the price range is less than 1, or because marginal revenue is negative.

(e) 2 points:
- One point is earned for indicating that the monopolist is not earning positive economic profit, because price equals average total cost.
- One point is earned for indicating that the monopolist is earning positive accounting profit.

(f) 2 points:
- One point is earned for stating that the marginal revenue of the 8th unit is $22.
- One point is earned for stating that 9 units will be produced.
(g) 2 points:
• One point is earned for stating that 10 units will be produced.
• One point is earned for stating that the consumer surplus is zero.
Question 2

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

(a) 3 points:
- One point is earned for a correctly labeled graph with a horizontal demand curve at the equilibrium price, \(P_E\).
- One point is earned for showing the equilibrium quantity, \(Q_E\), at \(MR = MC\).
- One point is earned for showing that \(ATC\) is below demand or \(MR\) at \(Q\).

(b) 1 point:
- One point is earned for showing a leftward shift of the \(MC\) curve.

(c) 2 points:
- One point is earned for drawing a correctly labeled graph with a horizontal \(MFC_1\) curve at \(w_1\) and a downward-sloping \(MRP\) curve and showing \(QL_1\).
- One point is earned for shifting the \(MFC\) curve up to \(w_2\) and showing the new equilibrium quantity of labor hired, \(QL_2\), which is smaller than \(QL_1\).
Question 3

5 points (4 + 1)

(a) 4 points:
- One point is earned for showing a correctly labeled MSC curve above a correctly labeled MPC curve.
- One point is earned for drawing the correctly labeled graph with an upward-sloping MPC curve and a downward-sloping MSB curve and showing the private market equilibrium, Q_m.
- One point is earned for showing the allocatively efficient quantity Q_s with Q_s < Q_m.
- One point is earned for shading the area representing the deadweight loss.

(b) 1 point:
- One point is earned for stating that the deadweight loss does not change because marginal cost does not change.