The College Board: Connecting Students to College Success

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Question 1

12 points \((4 + 2 + 2 + 1 + 1 + 2)\)

(a) 4 points:
   One point is earned for a correctly labeled graph with a downward-sloping demand curve and a marginal revenue curve below the demand curve.
   One point is earned for showing the profit-maximizing \(Q^*\) at \(MC = MR\).
   One point is earned for \(P^*\) on the demand curve above \(MC = MR\).
   One point is earned for showing the correct area of profit, \((P^* - ATC)Q^*\).

(b) 2 points:
   One point is earned for stating that it is price elastic (or “No”).
   One point is earned for the explanation that \(MR\) is positive so that \(TR\) rises if \(P\) is decreased.

(c) 2 points:
   One point is earned for stating that the demand curve for the typical firm would shift to the left.
   One point is earned for the explanation that the entry of new firms reduces the market share of existing firms.
(d)  1 point:
   One point is earned for showing that long-run equilibrium occurs at the tangency of ATC and the demand curve at the profit-maximizing quantity.

(e)  1 point:
   One point is earned for stating “No.”

(f)  2 points:
   One point is earned for stating “No.”
   One point is earned for the explanation that at the long-run equilibrium, P > MC.
Question 2

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

(a) 1 point:
   - One point is earned for identifying the market as an oligopoly because there is mutual interdependence—the behavior of each firm affects the other.

(b) 1 point:
   One point is earned for stating that an evening departure will be best for Airtouch.

(c) 1 point:
   One point is earned for stating that Winward’s dominant strategy is a morning departure.

(d) 2 points:
   One point is earned for stating that choosing an evening departure is not a dominant strategy for Airtouch.
   One point is earned for correctly reasoning that Airtouch does not have a dominant strategy because its best payoff depends on Winward’s choice (OR, more specifically, if Windward chooses a morning departure, Airtouch is best off choosing a morning departure).

(e) 1 point:
   One point is earned for identifying $\$700$. 

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Question 3

6 points (2 + 2 + 2)

(a) 2 points:
   One point is earned for stating “false.”
   One point is earned for explaining that the difference between ATC and AVC is AFC, which decreases as a firm’s output increases.

(b) 2 points:
   One point is earned for stating “false.”
   One point is earned for the explanation that the profit-maximizing output occurs where $P = MC$, which might be to the right or to the left of the lowest point on the ATC curve.

(c) 2 points:
   One point is earned for stating “false.”
   One point is earned for the explanation that if the firm shuts down in the short run, its losses from operating must be larger than (or equal to) its total fixed costs OR price must be less than AVC, so it is incurring a loss.