

**13. Incorrect. The answer is true.** From profit maximization in the output market:

$$\pi = P_Q * Q - TC(Q), TC'(Q) > 0, \text{ and } TC''(Q) > 0$$

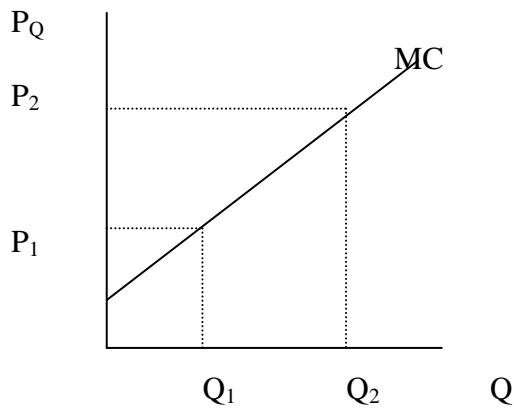
$$\text{F.O.C. } d\pi/dQ = P_Q - TC'(Q) = 0$$

$$P_Q = TC'(Q)$$

$$\text{2.O.C. } -TC'' < 0 \Rightarrow TC''(Q) > 0, \text{ which is satisfied}$$

In other words an electricity producer is willing to supply more electricity up to a point where the MC (TC') of producing additional unit of electricity is equal to its price.

If the price of the output is  $P_1$ , the producer is willing to supply the quantity of output of  $Q_1$ , where  $MC=P_Q$ . If the price of the output is  $P_2$ , the producer is willing to supply the quantity of output of  $Q_2$ , where  $MC=P_Q$ . Thus the MC is the supply of output curve.



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