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HW#11 Due November 24, 2020

3. Consider total cost and total revenue given in the following table:

Quantity	0	1	2	3	4	5	6	7
Total cost	$8	9	10	11	13	19	27	37
Total revenue	$0	8	16	24	32	40	48	56

a. Calculate profit for each quantity. How much should the firm produce to maximize profit?

b. Calculate marginal revenue and marginal cost for each quantity. Graph them. (*Hint*: Put the points between whole numbers. For example, the marginal cost between 2 and 3 should be graphed at $2\frac{1}{2}$.) At what quantity do these curves cross? How does this relate to your answer to part (a)?

c. Can you tell whether this firm is in a competitive industry? If so, can you tell whether the industry is in a long-run equilibrium?

7. A profit-maximizing firm in a competitive market is currently producing 100 units of output. It has average revenue of $10, average total cost of $8, and fixed cost of $200.

a. What is its profit?

b. What is its marginal cost?

c. What is its average variable cost?

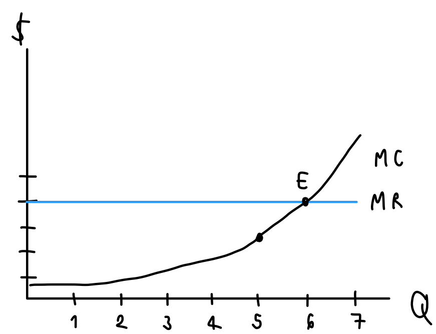
d. Is the efficient scale of the firm more than, less than, or exactly 100 units?

i.e. Is AC at its minimum?

3.

a) between Quantity 5 & 6

b)



MC = MR when producing at Q(5,6)

$\left.\begin{array}{l} MC = 8 \\ MR = 8 \end{array}\right\}$ intersected

c) Perfect competition because MR = P = D = AR or MR has the same price according to quantity & the graph of MR is horizontal line.

7. $Q = 100$ $AR = \$10$ $ATC = \$8$ $FC = \$200$, $P = AR = MR = D$

a) $TR = PQ = P(100) = 10(100)$

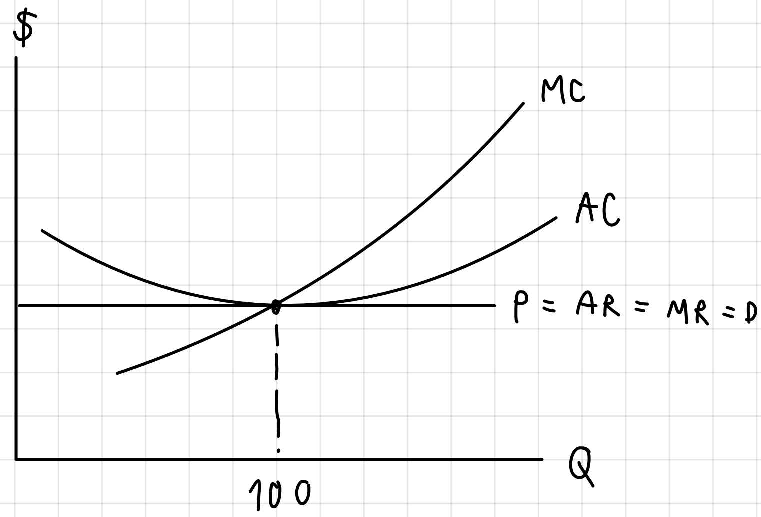
$TC = 200 + 8(100) = 1000$

profit = 0

b) $MC = 8$

c) $AVC = 8$

d) $MC = 8$, $AC = 8$



If they produce less than 100 units, they will gain more profit.

But if they produce more than 100 units, they will start to get loss.