

$$TR = P = AR = MR = D$$

HW#11 Due November 24, 2020

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

Quantity	fixed cost	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

MR = MC

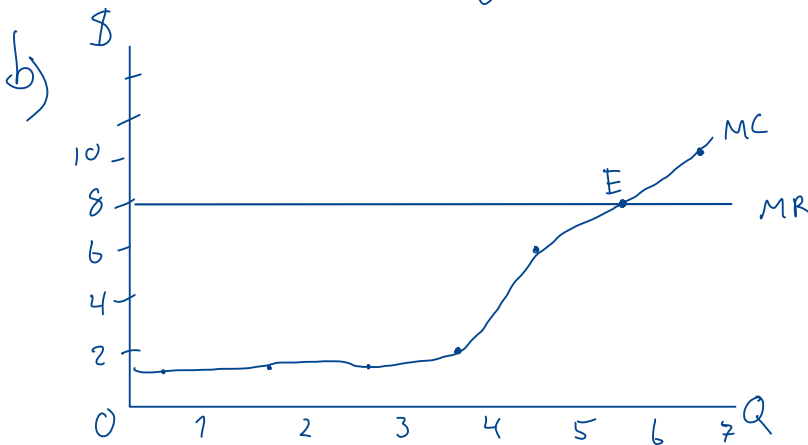
- Calculate profit for each quantity. How much should the firm produce to maximize profit?
- Calculate marginal revenue and marginal cost for each quantity. Graph them. (Hint: Put the points between whole numbers. For example, the marginal cost between 2 and 3 should be graphed at  $2\frac{1}{2}$ .)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

- What is its profit?
- What is its marginal cost?
- What is its average variable cost?
- 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 and 6



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

MC = 8  
MR = 8  
intersected

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

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

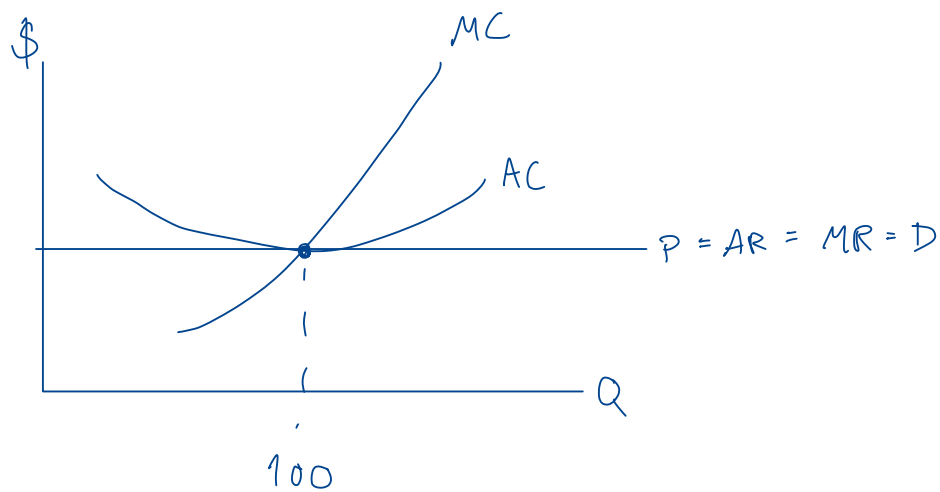
a)  $TR = PQ = P(100) = 10(100)$   
 $TC = 200 + 8(100) = 1000$  }  $\rightarrow (-)$

Profit = 0

b)  $MC = 8$

c)  $AVC = 8$

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



If they produce less than 100 unit, they will gain more profit.  
 But if they produce more than 100 unit, they will start to lose money or loss.