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.

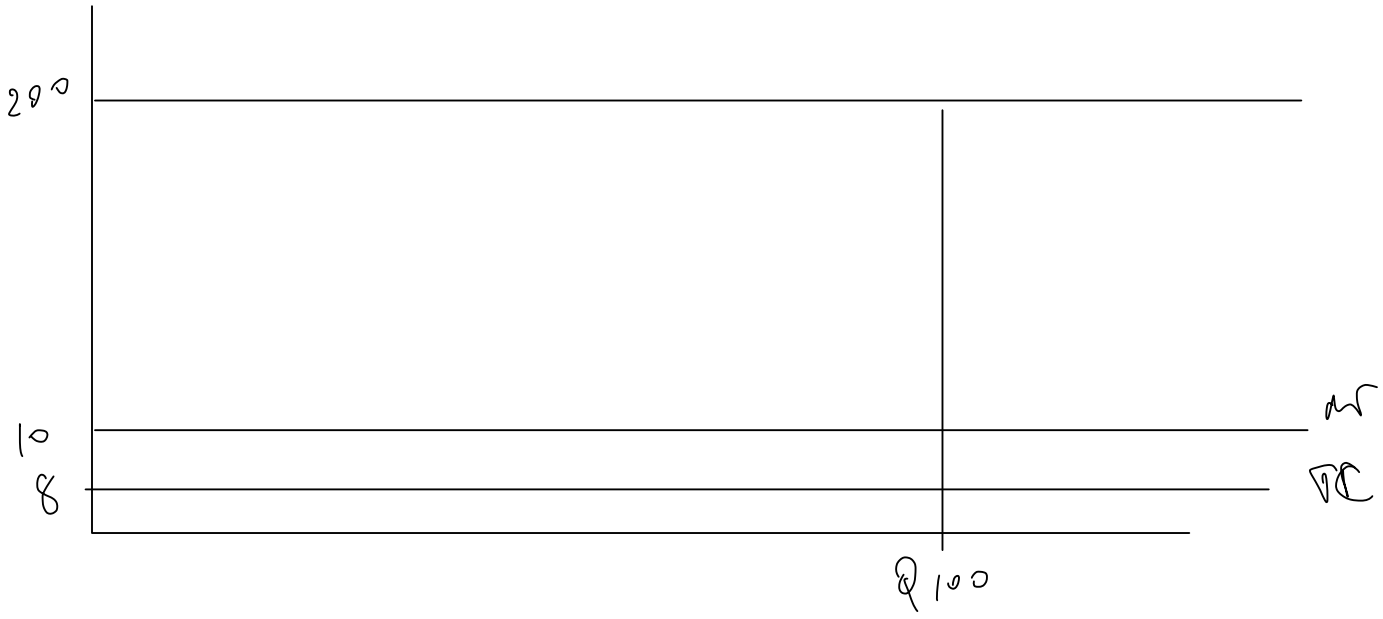
   a. What is its profit? 1900

   b. What is its marginal cost? 200

   c. What is its average variable cost? 6

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

i.e. Is AC at its minimum?



$20,000 - 800$

$= 19,200$

$MC = \frac{TC}{Q}$

3) (a) $\pi(Q) = TR(Q) - TC(Q)$

1. $7 - 8 = -1$
2. $11 - 19 = 6$
3. $24 - 11 = 13$
4. $32 - 13 = 19$
5. $40 - 19 = 21$
6. $48 - 27 = 21$

$7.56 - 37 = 19$

(b) At the quantity 4 and 5, the curves cross at A the same maximum profit.

$9 - 8 = 6.5$

$10 \cdot 16 = 13$

$11 - 24 = 17.3$

$11 - 32 = 22.5$

$19 - 40 = 20.5$

$27 - 48 = 37.5$

(c) The firm is in a competitive industry because it has maximum AC and it also in the long-run equilibrium.