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
			2.5	4 1/3	4.75	4.2	3.5	2.7
Total cost	$8	9	10	11	13	19	27	37
		-1	5	13	19	21	21	19
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 $2^1/_2$.) 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.

1000
900 included 200

a. What is its profit?

b. What is its marginal cost?

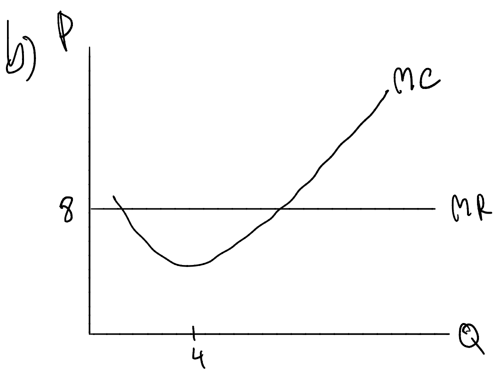
c. What is its average variable cost?

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) 4 quantity is the maximize profit that the firm should produce
because profit each quantity = 4.75 which is the highest profit each quantity that the firm can produce.

b)

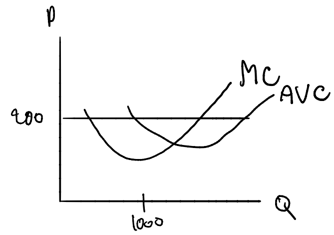


c) Yes, this firm is in a competitive industry but in short-run equilibrium because
slope $MR(Q_0) < \text{slope } MC(Q_0)$

7 a) 200 $

b)

c)



d) the efficient scale is at exactly 1000 units because it's the minimum AC.