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 $2\,{}^{1}/_{2}$.) 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?

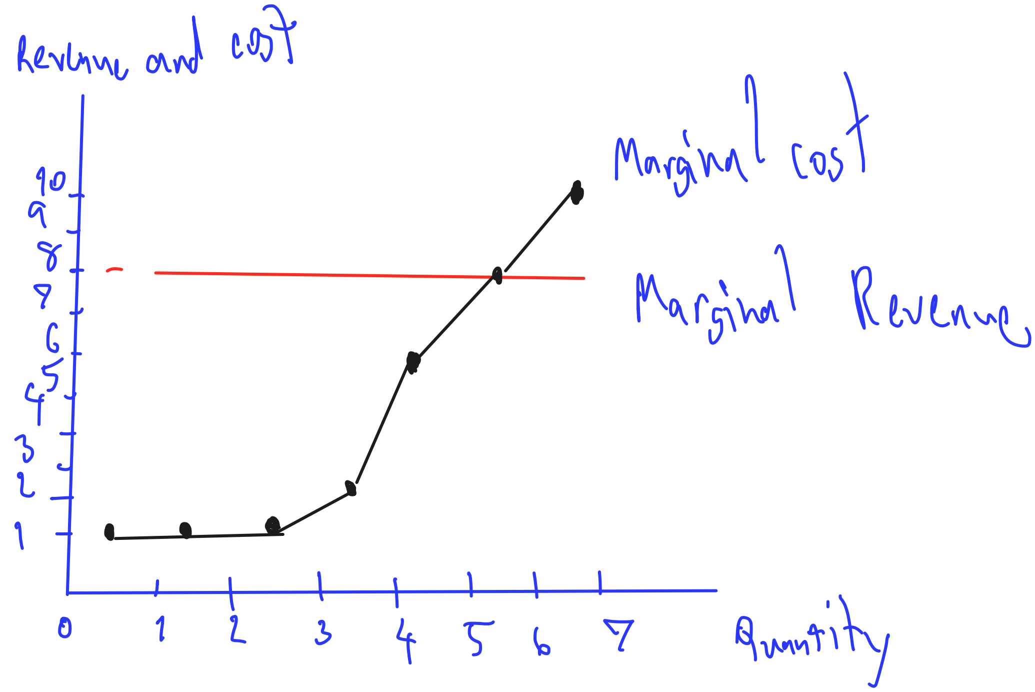
d. Is the efficient scale of the firm more than, less than, or exactly 100 units?

i.e. Is AC at its minimum?

3

a.) The firm should produce 5 or 6 units to maximize profit since TR - TC is largest [40 - 19 = 21, 48 - 27 = 21] at both 5 and 6

b.)



Marginal revenue and marginal cost are graphed. The curves cross at a quantity between 5 and 6 units, yielding the same answer as in part a.

c.) This industry is competitive since marginal revenue is the same for each quanitity.

The industry is not in long-run equilibrium, since profit is positive.

7.

a.) The profit will be $ 200

b.) Marginal cost is equal to the average & revenue of $ 10

c.) The average varible cost is $ 6

d.) The average total cost = $ 8
The marginal cost = $ 10
Average total cost is less than marginal cost.
An efficient scale of production will be when the firm produces less than 100 units of output.