HW#10 Due November 10, 2020

4. Nimbus, Inc., makes brooms and then sells them door-to-door. Here is the relationship between the number of workers and Nimbus's output during a given day:

a. $MP = \frac{Q_n - Q_{n-1}}{L_n - L_{n-1}}$

Excluding the beinging and last, the different between each of them is either decrease or increase for 10 unit. It's because workers are human which mean they have different aptitude.

b. Total Cost = TFC + TVC

= 200 + 100W

c. $ATC = \frac{TC}{Q}$

These information show that making more quantity will decrease the average total cost. So making more means reducing cost.

d. $MC = \frac{\Delta TC}{\Delta Q}$

It isn't stable

Workers	Output	Marginal Product	Total Cost	Average Total Cost	Marginal Cost
0	0	NA	___	___	NA
		___	300	NA	___
1	20	20	___	___	15
		___	400	15	___
2	50	30	___	___	3.33
		___	500	8	___
3	90	40	___	___	2.5
		___	600	5.55	___
4	120	30	___	___	3.33
		___	700	5	___
5	140	20	___	___	5
		___	800	5	___
6	150	10	___	___	10
		___	900	5.33	___
7	155	15	___	___	6.66

a. Fill in the column of marginal products. What pattern do you see? How might you explain it?

b. A worker costs $100 a day, and the firm has fixed costs of $200. Use this information to fill in the column for total cost.

c. Fill in the column for average total cost. (Recall that $ATC = TC/Q$.) What pattern do you see?

d. Now fill in the column for marginal cost. (Recall that $MC = \Delta TC/\Delta Q$.) What pattern do you see?

5. You are the chief financial officer for a firm that sells gaming consoles. Your firm has the following average-total-cost schedule:

Quantity	Average Total Cost
600 consoles	$300
601	301

Your current level of production is 600 consoles, all of which have been sold. Someone calls, desperate to buy one of your consoles. The caller offers you $550 for it. Should you accept the offer? Why or why not?

Yes, because the average total cost of 601 is $301 while we are able to sell it to offerer for $550. It gives us $550 - $301 = $249 more.