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:

Workers	Output	Marginal Product	Total Cost	Average Total Cost	Marginal Cost	TFC
0	0		0	0		0
		20			1	
1	20		20	1		300
		10			1.67	
2	50		70	1.4		400
		40			2.28	
3	90		160	1.78		500
		30			4	
4	120		280	2.33		600
		20			7	
5	140		420	3		700
		10			15	
6	150		570	3.8		800
		5			31	900
7	155		725	4.68		

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?

c. Average cost will keep increasing as the output increases through the column.

d. The marginal cost will keep increasing as the number of workers increase.

5) Yes, because the average total cost of $301 with 601 consoles means that you will generate more profit from this offer. The company will gain $550 from the offer in which the average total cost is only $301.