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
0	0		200	0	
		20			5
1	20		300	15	
		30			3.33
2	50		400	8	
		40			2.5
3	90		500	5.56	
		30			3.33
4	120		600	5	
		20			5
5	140		700	5	
		10			10
6	150		800	5.33	
		5			20
7	155		900	5.8	

   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	180,000
601	301	180,901

   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?

Ans Should not, because for the next console has got $901, but caller offer only $550 which means if you accept the offer you will loss $351. So, it is not worth to produce the next console.

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?

ⓐ When adding the variable factors at the first, MP will increase and then MP will decrease until the value is 0 and eventually be negative

ⓑ Total Cost ⟶ Total Fixed Cost : Stable and doesn't change

↘ Total Variable Cost : Will increase as your produces

ⓒ It's seem to be parabola concave up curve