

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 ^{TC/Q}	Marginal Cost
0	0		<u>500</u>	—	
		<u>20</u>			<u>0</u>
1	20		<u>500</u>	<u>25</u>	
		$\frac{50-20}{2-1}$ <u>30</u>			<u>0</u>
2	50		<u>500</u>	<u>10</u>	
		<u>40</u>			<u>0</u>
3	90		<u>500</u>	<u>5.56</u>	
		<u>30</u>			<u>0</u>
4	120		<u>500</u>	<u>4.17</u>	
		<u>20</u>			<u>0</u>
5	140		<u>500</u>	<u>3.17</u>	
		<u>10</u>			<u>0</u>
6	150		<u>500</u>	<u>3.33</u>	
		<u>5</u>			<u>0</u>
7	155		<u>500</u>	<u>3.23</u>	

a) At first, the value get increasing by 20 from worker 0 to 1. Then, it changes to get increasing by 10 until there are 3 workers. It gets decreasing by 10 from 4-6 workers. Lastly, it is decreased by 5. The value at the beginning keep get increasing and then it gets decreasing.

c) The value is decreasing each when the worker is decreased by 1

d) Since the average total cost remains the same, the marginal is zero.

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?

Should, because the cost for production is \$300 and you can sell \$550 which you can make profit $550 - 300 = \$250$.