Decision to Shut Down Example

Mike’ Athletic Shoe Company has a decision to make; they are trying to decide whether or not they should remain in business or shut their doors. Currently, their variable costs per box of shoes is $600, their average cost per box of shoes is $900, and their price is $700 per box. Their total costs is $9000, they produce 10 boxes of shoes.

1. What is their amount of fixed cost?
2. What is their average fixed cost per box when the company produces 10 boxes
3. What will be their amount of profit if they shut down?
4. What will be their amount of profit if they do not shut down?
5. What should they do?
6. In econ terms of AVC and Price, how do you know if the company should stay open?
7. Draw a graph that displays this information. The graph should include MC, AVC, and AC curves as well as a Price/Demand line.

After you try the problem look below for the solution

Solution

1. When they produce 10 boxes (or you can say when q=10)

TC = $9000

Average variable cost = 600 since AVC = TVC/q then TVC must equal $6000

TC = TVC + TFC

9000 = 6000 + TFC therefore TFC must equal $3000

2. Since AFC = TFC/q

AFC = $3000/10

AFC = 300

Now we know AC = 900 (given), AVC = $600 (given), AFC = $300 (solved for)

3. If they shut down they only pay their total fixed cost, variable cost go away.

If they shut down

Profit = TR- TC

Profit = P\*q – TC when q = 0 then Total cost = fixed cost

Profit = $700\*0 - $3000

Profit = - $3000

4. If they product 10 boxes, then

Profit = TR – TC

Profit = P\*q – TC when q = 10 TC is equal to $9000 (given above)

Profit = $700\*10 - $9000

Profit = - $2000

5. They should stay open. It is better to lose $2000 than to lose $3000

6. As long as the Price is greater than or equal to the AVC the company should stay open in the short run. But, in the long run either others firms will have to drop out so that price can rise or this firm must find a way to lower their cost. They cannot operate with a loss in the long run.

7. Notice that the price is in-between the AVC and the AC curves. It is greater than AVC but less than AC.

Price

 MC

 AC

 900 AVC

 700 D

 600

 10 Quantity