

Chapter 8: Production and Cost in the Short Run Quiz

When answering the questions below, please show all details of your calculations.

1. Suppose that a firm is currently employing 20 workers, the only variable input, at a wage rate of \$60. The average product of labor is 30, the last worker added 12 units to total output, and total fixed cost is \$3,600.

- a. What is marginal cost?

$$\frac{w}{mp} = \frac{60}{12} = \$5$$

0.5

- b. What is average variable cost?

$$\frac{w}{AP} = \frac{60}{30} = \$2$$

0.5

- c. How much output is being produced?

$$\text{Output} = L \cdot AP = 600$$

$$20 \times 30$$

0.5

- d. What is average total cost?

$$ATC = AFC + AVC$$

0.5

$$= \frac{3,600}{600} = 6 + 2 = \$8$$

- e. Is average variable cost increasing, constant, or decreasing? Why?

0.5

$$\begin{matrix} \text{Ave} \\ SMC > AVC \\ 5 > 2 \end{matrix}$$

AVC is increasing because last unit of production is greater than current average so it raises it, like GPA

- f. Is average total cost increasing, constant, or decreasing? Why?

0.5

$$\begin{matrix} ATC > MC \\ 8 > 5 \end{matrix}$$

ATC is decreasing because the last unit brings less value than the current average, so it will bring it down

quar