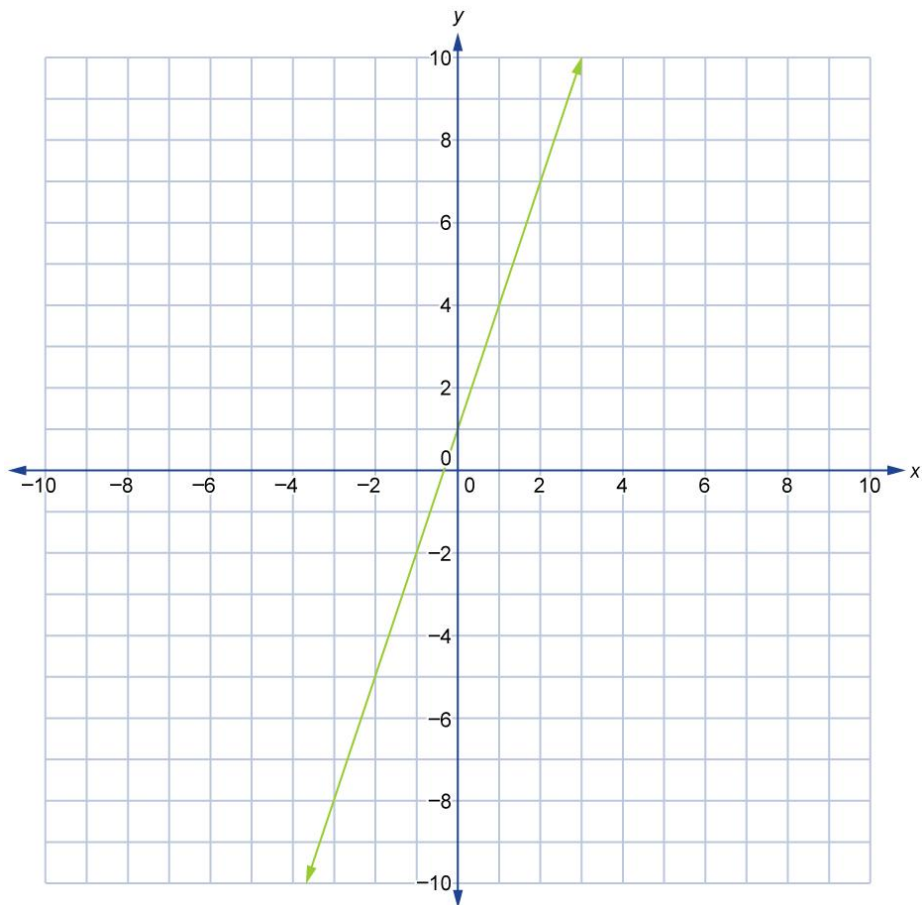


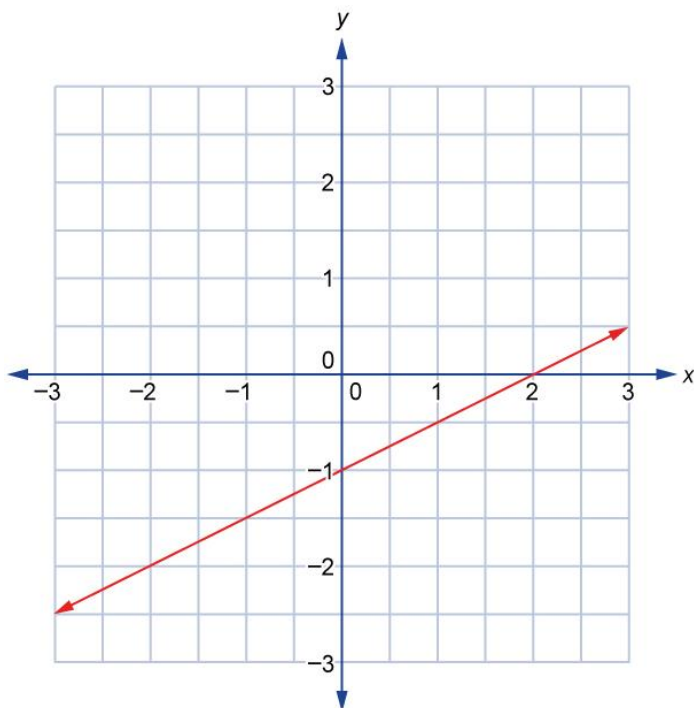
Module 6 Lesson 1: Function Notation Possible Solutions

Are You Ready?

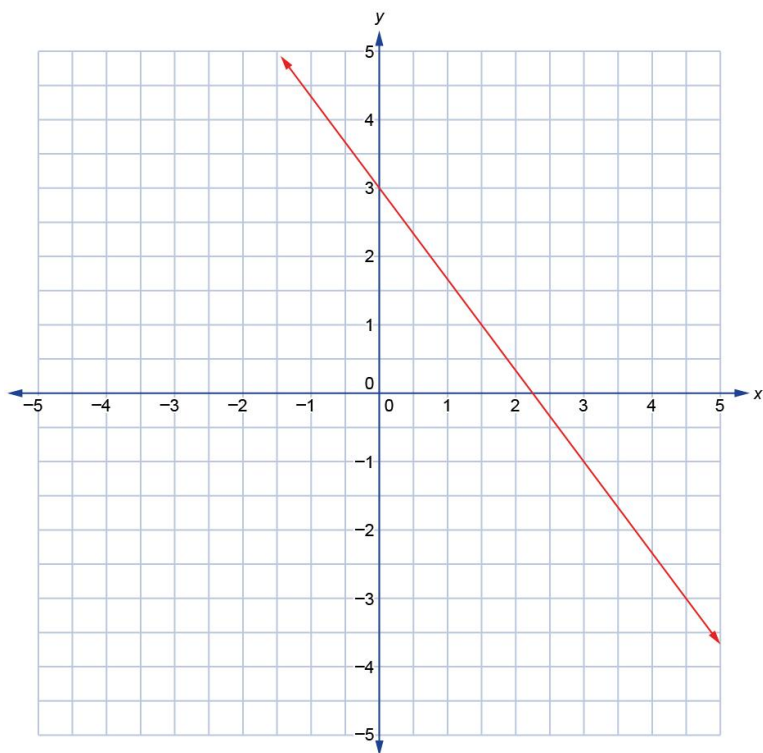
1. A function is a relation such that every input value only has one output value.
2.
 - a. Yes, this is a function since each value of x would only give one value of y .
 - b. No, this is not a function since the graph of $x = -3$ is a vertical line. This line would not pass the vertical line test.
 - c. Yes, this is a function since the graph of $y = -3$ is a horizontal line. Any horizontal line would pass the vertical line test.
3.
 - a. slope = 3; y -intercept = 1



b. slope = $\frac{1}{2}$; y-intercept = -1



c. slope = $-\frac{4}{3}$; y-intercept = 3



$$\begin{aligned}
 4. \quad a. \quad & 5x - y + 1 = 0 \\
 & 5x - y + y + 1 = y \\
 & 5x + 1 = y \\
 & y = 5x + 1
 \end{aligned}$$

$$\begin{aligned}
 y &= 5 \cdot 3 + 1 \\
 &= 15 + 1 \\
 &= 16
 \end{aligned}$$

$$\begin{aligned}
 b. \quad & 2x + y - 4 = 0 \\
 & 2x + y - 4 + 4 = 0 + 4 \\
 & 2x + y = 4 \\
 & 2x - 2x + y = -2x + 4 \\
 & y = -2x + 4
 \end{aligned}$$

$$\begin{aligned}
 y &= -2 \cdot 3 + 4 \\
 &= -6 + 4 \\
 &= -2
 \end{aligned}$$

$$\begin{aligned}
 c. \quad & x + 2y + 10 = 0 \\
 & x + 2y - 2y + 10 = -2y \\
 & x + 10 = -2y \\
 & \frac{x}{-2} + \frac{10}{-2} = \frac{-2y}{-2} \\
 & -\frac{x}{2} - 5 = y \\
 & y = -\frac{1}{2}x - 5
 \end{aligned}$$

$$\begin{aligned}
 y &= -\frac{1}{2}x - 5 \\
 &= -\frac{1}{2} \cdot 3 - 5 \\
 &= -\frac{3}{2} - 5 \\
 &= -\frac{3}{2} - \frac{10}{2} \\
 &= -\frac{13}{2}
 \end{aligned}$$