

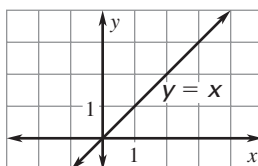


### Objective 3 TEKS A.5.C Review

#### A.5.C Use, translate, and make connections among algebraic, tabular, graphical, or verbal descriptions of linear functions.

Equations, tables, graphs, words, and sets of ordered pairs can all represent linear functions.

The graph displays all the solutions of the linear function  $y = x$ .



The table displays some discrete data that fit the model  $y = x$ .

<b>x</b>	0	2	3	4
<b>y</b>	0	2	3	4

**EXAMPLE** Are the points  $(-1, 5)$ ,  $(0, 3)$ ,  $(1, -1)$ , and  $(2, -4)$  on the graph of  $y = -3x + 2$ ?

Determine which points are solutions of  $y = -3x + 2$ .

If  $x = -1$ , then  $-3(-1) + 2 = 5$ . Therefore  $(-1, 5)$  **is** a point on the graph.

If  $x = 0$ , then  $-3(0) + 2 = 2$ . Therefore  $(0, 3)$  **is not** a point on the graph.

If  $x = 1$ , then  $-3(1) + 2 = -1$ . Therefore,  $(1, -1)$  **is** a point on the graph.

If  $x = 2$ , then  $-3(2) + 2 = -4$ . Therefore  $(2, -4)$  **is** a point on the graph.

Only the points  $(-1, 5)$ ,  $(1, -1)$ , and  $(2, -4)$  are on the graph of  $y = -3x + 2$ .

#### YOU DO IT

1. Do you think that each point in the set  $\{(-1, -4), (0, 2), (1, 0), (2, 2)\}$  **is** or **is not** on the graph of  $y = 2x - 2$ ?

a. If  $x = -1$ , then  $2 \cdot \underline{-1} - 2 = \underline{-4}$ . Therefore  $(-1, -4)$  is on the graph.

b. If  $x = 0$ , then  $2 \cdot \underline{0} - 2 = \underline{-2}$ . Therefore,  $(0, 2)$  is not on the graph.

c. If  $x = 1$ , then  $2 \cdot \underline{1} - 2 = \underline{0}$ . Therefore,  $(1, 0)$  **is** on the graph.

d. If  $x = 2$ , then  $2 \cdot \underline{2} - 2 = \underline{2}$ . Therefore  $(2, 2)$  **is** on the graph.

- e. Which of the four points are on the graph of  $y = 2x - 2$ ?

**The points  $(-1, -4)$ ,  $(1, 0)$ , and  $(2, 2)$  are on the graph.**

2. In a linear function,  $f(x)$  is always 5 more than 3 times  $x$ . What is the value of  $f(x)$  when  $x = -10$ ?

a. Which equation describes the relationship between  $f(x)$  and  $x$ ?  **$f(x) = 3x + 5$**

b. If  $x = -10$ , then  $f(x) = 3(\underline{-10}) + \underline{5} = \underline{-25}$ .

c. When  $x = -10$ ,  $f(x) = \underline{-25}$ .