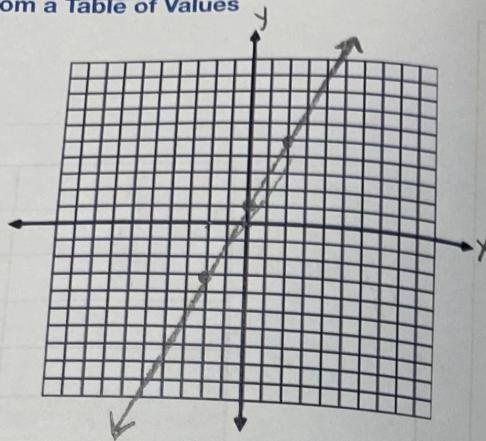
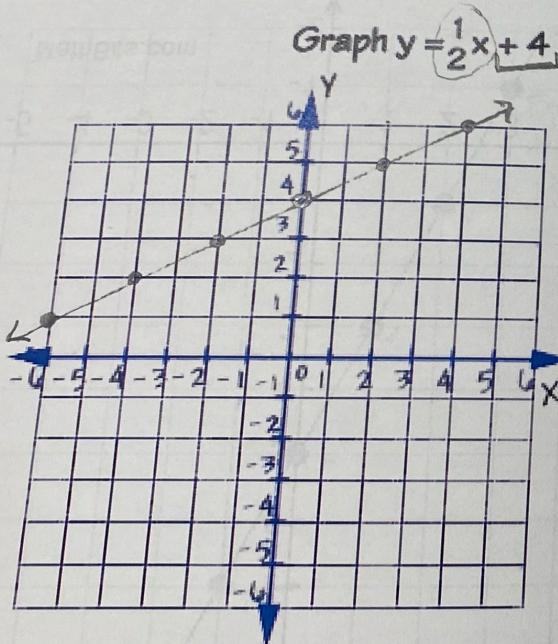


**Example 1: Create a Graph From a Table of Values**

x	y
-2	-3
0	1
2	5



**Example 2: Create a Graph From an Equation**



$$y = mx + b$$

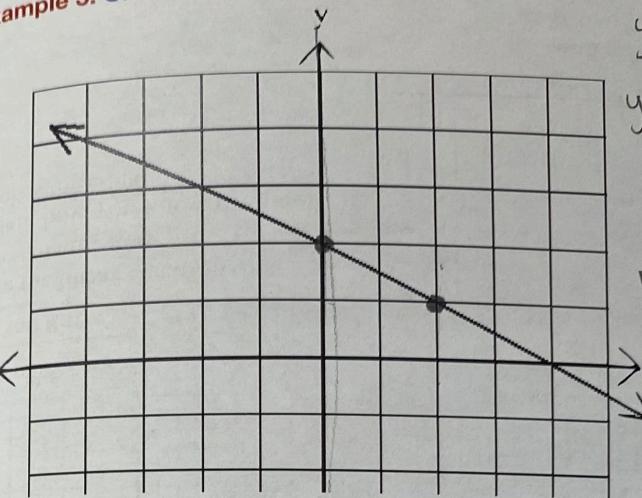
$m = \text{slope}$

$$= \frac{\Delta y}{\Delta x} \rightarrow \frac{1}{2}$$

$b = y\text{-int.}$

$$= 4$$

**Example 3: Create an Equation From a Graph**



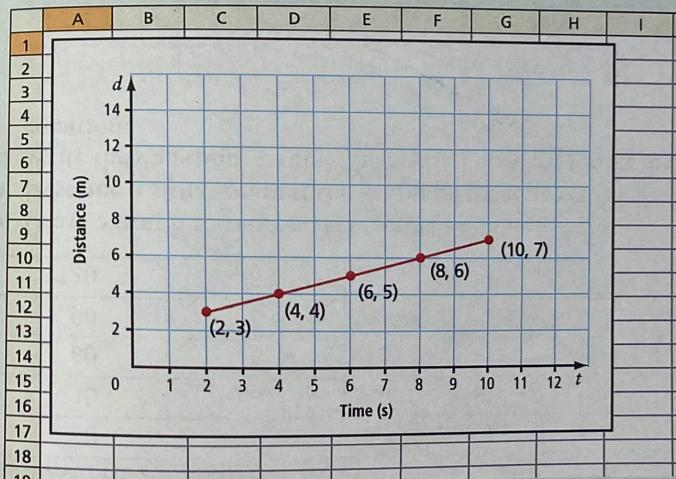
$$y = mx + b$$

$$y = -\frac{1}{2}x + 2$$

$$\begin{aligned} m &= \frac{\Delta y}{\Delta x} \\ &= -\frac{1}{2} \end{aligned}$$

**Show You Know**

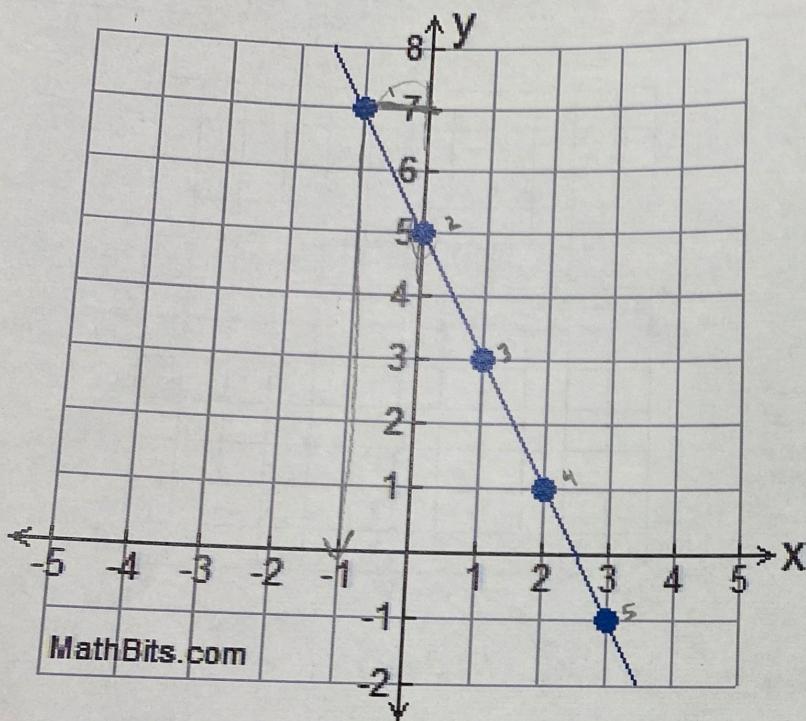
Identify the linear equation that represents the graph.



**Show You Know**

- Graph the linear relation  $y = 2x - 5$ .
- Use the graph to estimate the value of  $y$  if  $x = 8$ .
- Use the graph to estimate the value of  $x$  if  $y = -4$ .

**Example 4: Create a Table of Values From a Graph**



x	y
-1	7
0	5
1	3
2	1
-3	-1

$$y = -2x + 5$$

**Example 5: Create Horizontal and Vertical Lines**

For each table of values, answer the following questions:

Table 1

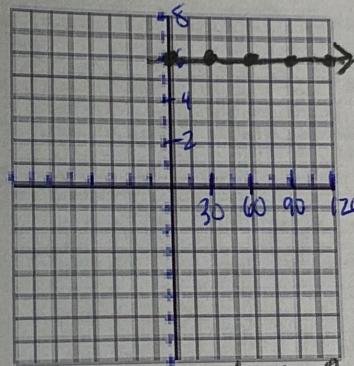
Time, t (s)	Distance, d (m)
0	6
30	6
60	6
90	6
120	6

Table 2

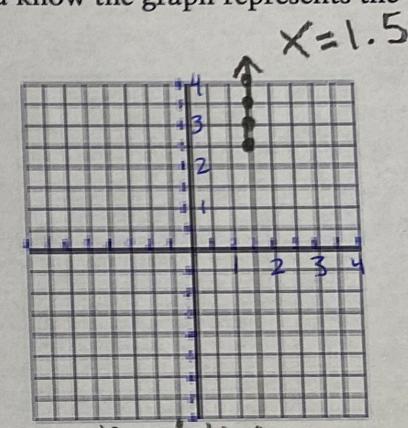
Distance, x (m)	Height, y (m)
1.5	2.5
1.5	3.0
1.5	3.5
1.5	4.0
1.5	4.5

- a) Draw a graph to represent the table of values.
- b) Describe a situation that the graph might represent.
- c) Write the equation. Explain how you know the graph represents the equation.

$$y = 6$$



Horizontal line  
→ y stays



Vertical line  
→ x stays

**Show You Know**

- a) Write the linear equation that represents the graph.
- b) Explain how you know the graph matches the equation.

