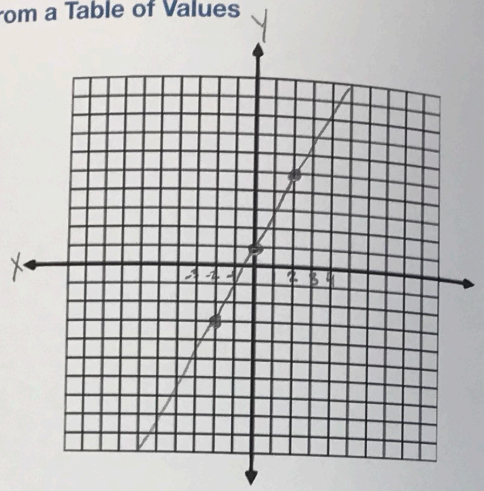
6.3 Graphing Linear Relations

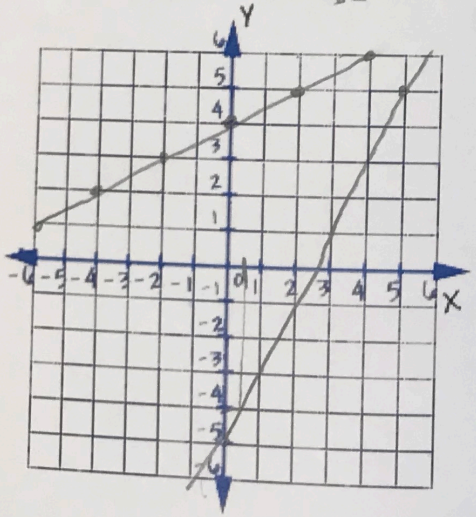
Example 1: Create a Graph From a Table of Values

x	y
-2	-3
0	1
2	5



Example 2: Create a Graph From an Equation

Graph $y = \frac{1}{2}x + 4$



$y = mx + b$

m = slope → $\frac{\text{rise}}{\text{run}}$

b = y value @ $x = 0$

y-intercept

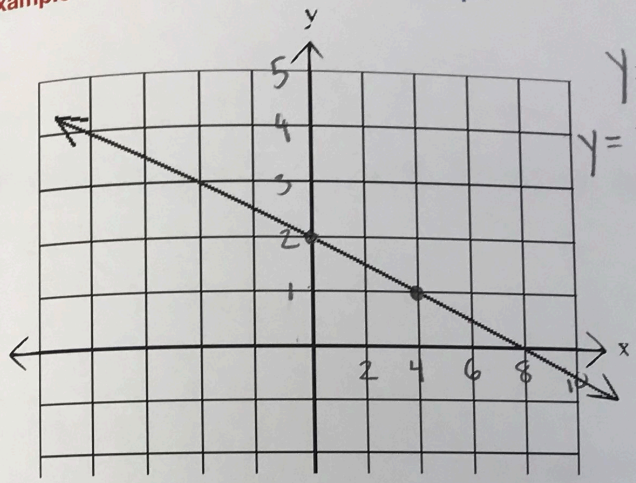
Show You Know

a) Graph the linear relation $y = 2x - 5$.

b) Use the graph to estimate the value of y if $x = 8$.

c) Use the graph to estimate the value of x if $y = -4$.

Example 3: Create an Equation From a Graph

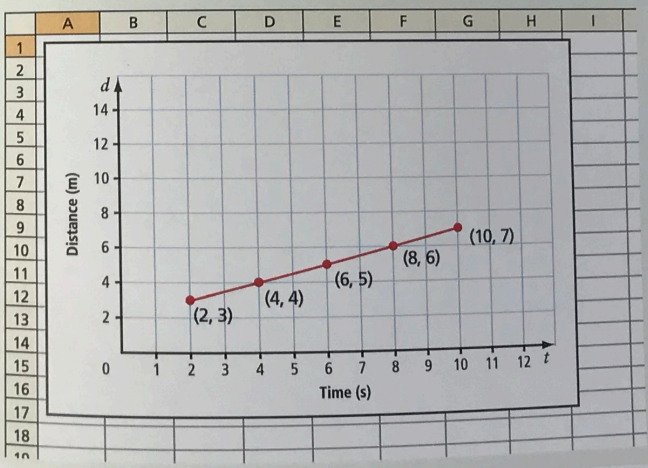


$y = mx + b$

$y = \frac{-1}{4}x + 2$

Show You Know

Identify the linear equation that represents the graph.

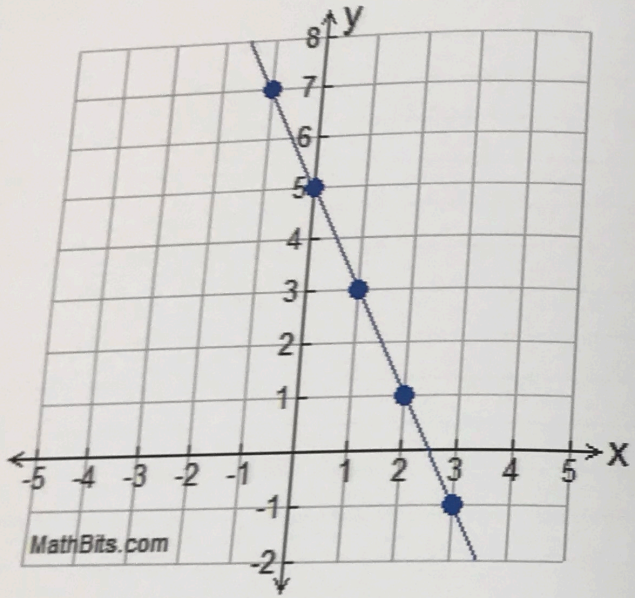


$\frac{\Delta y}{\Delta x}$

$\frac{y_2 - y_1}{x_2 - x_1}$

6.3 Graphing Linear Relations

Example 4: Create a Table of Values From a Graph



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

Example 5: Create Horizontal and Vertical Lines

For each table of values, answer the following questions:

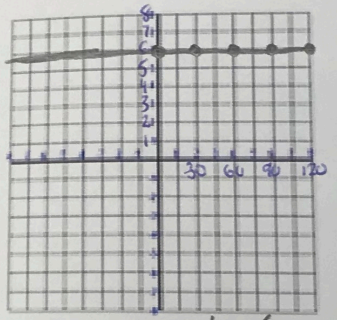
Table 1

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

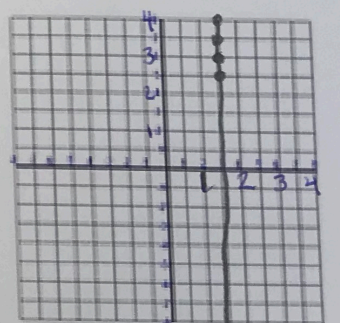
Table 2

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

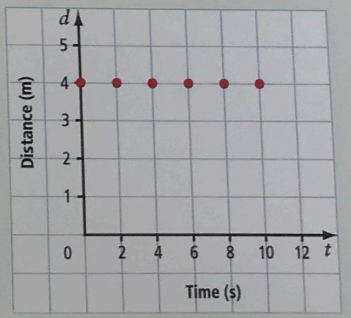
a) Draw a graph to represent the table of values.
b) Describe a situation that the graph might represent.
c) Write the equation. Explain how you know the graph represents the equation.



Y=6



X=1.5

Show You Know

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