NAME _____ DATE _____ PERIOD ____

11-3 Study Guide and Intervention

Graphing Linear Functions

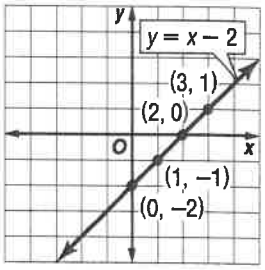
A function in which the graph of the solutions forms a line is called a **linear function**. A linear function can be represented by an equation, a table, a set of ordered pairs, or a graph.

EXAMPLE 1 **Graph $y = x - 2$.**

Step 1 Choose some values for x. Use these values to make a function table.

x	$x - 2$	y	(x, y)
0	$0 - 2$	-2	$(0, -2)$
1	$1 - 2$	-1	$(1, -1)$
2	$2 - 2$	0	$(2, 0)$
3	$3 - 2$	1	$(3, 1)$

Step 2 Graph each ordered pair on a coordinate plane. Draw a line that passes through the points. The line is the graph of the linear function.



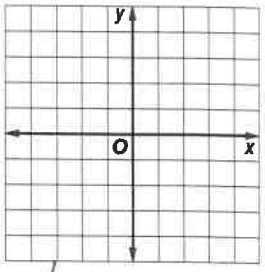
The value of x where the graph crosses the x-axis is called the ***x*-intercept**. The value of y where the graph crosses the y-axis is called the ***y*-intercept**. For the graph in Example 1, the x-intercept is 2 and the y-intercept is -2.

EXERCISES

Complete the function table. Then graph the function.

1. $y = x + 3$

x	$x + 3$	y	(x, y)
-2	$-2+3$	1	$(-2, 1)$
0	$0+3$	3	$(0, 3)$
1	$1+3$	4	$(1, 4)$
2	$2+3$	5	$(2, 5)$



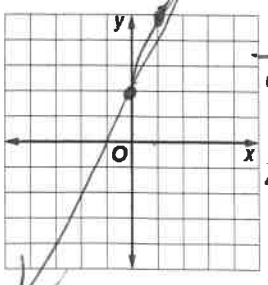
use 0, 1, 2 for each!

Graph each function.

2. $y = 3x + 2$

x	$3x+2$	y
0	$3\cdot0+2$	2
1	$3\cdot1+2$	5
2	$3\cdot2+2$	8

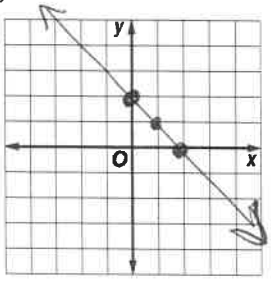
(0, 2)
(1, 5)
(2, 8)



3. $y = 2 - x$

x	$2-x$	y
0	$2-0$	2
1	$2-1$	1
2	$2-2$	0

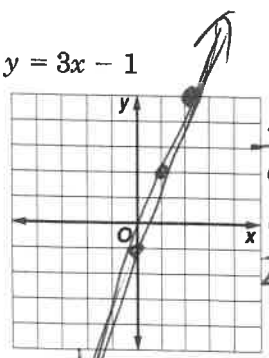
(0, 2)
(1, 1)
(2, 0)



4. $y = 3x - 1$

x	$3x-1$	y
0	$3\cdot0-1$	-1
1	$3\cdot1-1$	2
2	$3\cdot2-1$	5

(0, −1)
(1, 2)
(2, 5)



Lesson 11–3

NAME _____ DATE _____ PERIOD ____

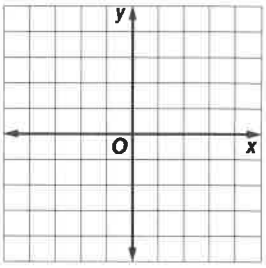
11-3 Practice: Skills

Graphing Linear Functions

Complete the function table. Then graph the function.

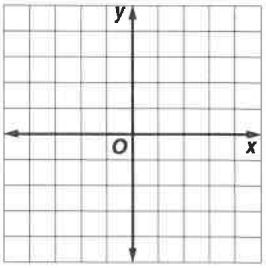
1. $y = x + 4$

x	$x + 4$	y	(x, y)
-2			
-1			
0			
1			



2. $y = 2x - 1$

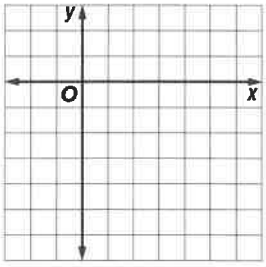
x	$2x - 1$	y	(x, y)
-1			
0			
1			
2			



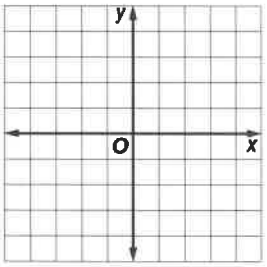
use 0, 1, 2 for all except 7 and 8

Graph each function.

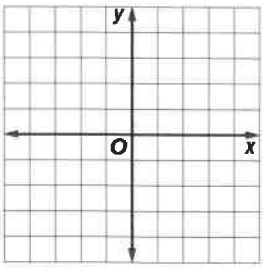
3. $y = x - 6$



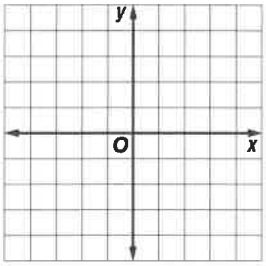
4. $y = 2x - 3$



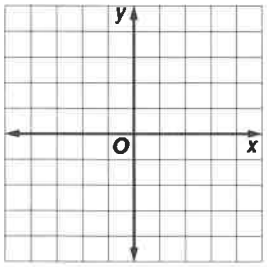
5. $y = 1 - x$



6. $y = 3x + 2$



7. $y = \frac{x}{2} + 2$ use 0, 2, 4



8. $y = \frac{x}{3} - 1$ use 0, 3, 6