

LESSON **Review for Mastery**

3-4 **Graphing Functions**

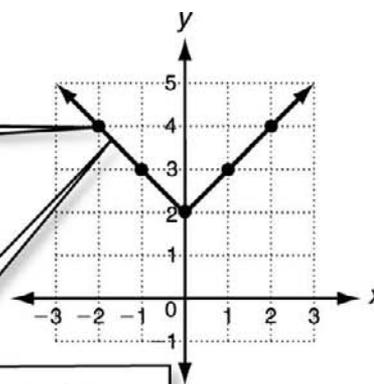
There are three steps to graphing a function.

Graph $f(x) = |x| + 2$.

Remember that $f(x)$ is function notation for y , so rewrite the function as $y = |x| + 2$.

Step 1: Generate points.
Unless a domain is given, you can pick any values of x .

Step 2: Plot points.



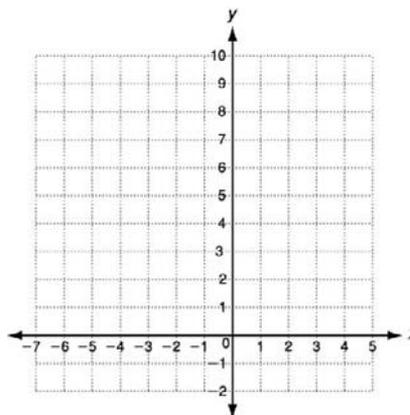
Step 3: Connect points.
Connect the points with a smooth line or curve.

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

Graph each function.

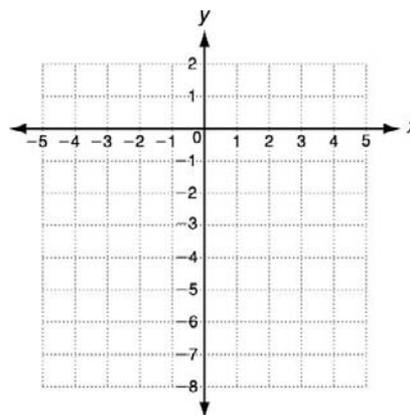
1. $y = (x + 2)^2$

x	$y = (x + 2)^2$	(x, y)
-4	$y = (-4 + 2)^2 = (-2)^2 = \underline{\quad}$	
-3	$y = (-3 + 2)^2 = (\underline{\quad})^2 = \underline{\quad}$	
-2	$y = (\underline{\quad} + 2)^2 = (\underline{\quad})^2 = \underline{\quad}$	
-1	$y = (\underline{\quad})^2 = (\underline{\quad})^2 = \underline{\quad}$	
0	$y = \underline{\quad}$	



2. $f(x) = \frac{1}{2}x - 3$

x	$y = \frac{1}{2}x - 3$	(x, y)



LESSON
3-4

Review for Mastery

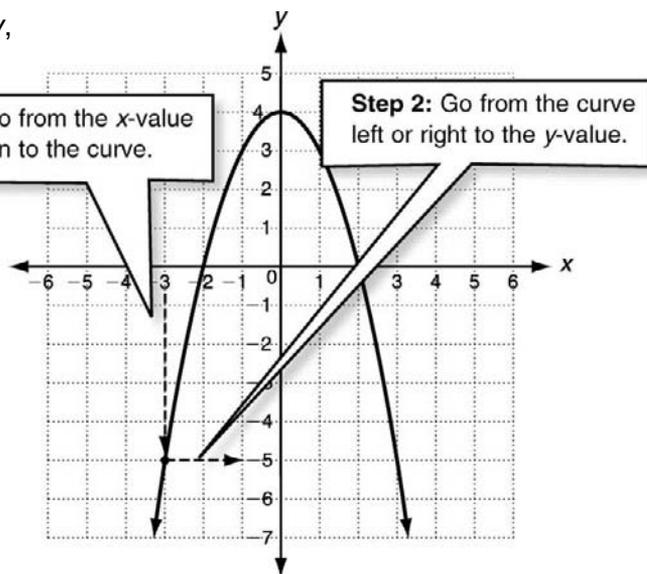
Graphing Functions *continued*

You can use the graph of a function to find points that are generated by the function.

Use the graph of $f(x) = -x^2 + 4$ to find the value of $f(x)$ when $x = -3$.

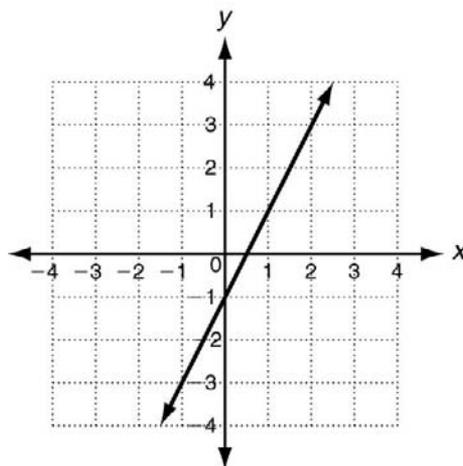
Remember that $f(x)$ is function notation for y , so you need to find y when $x = -3$.

Because $(-3, -5)$ is a point on the graph of the function,
 $f(x) = -5$ when $x = -3$.



Use this graph of $f(x) = 2x - 1$ to find these values.

3. $f(x) = \underline{\hspace{2cm}}$ when $x = -1$
4. $f(x) = \underline{\hspace{2cm}}$ when $x = 1$
5. $f(x) = \underline{\hspace{2cm}}$ when $x = \frac{1}{2}$



Use this graph of $f(x) = |5 - x|$ to find these values.

6. $f(x) = \underline{\hspace{2cm}}$ when $x = 2$
7. $f(x) = \underline{\hspace{2cm}}$ when $x = 6$
8. $x = \underline{\hspace{2cm}}$ when $f(x) = 0$

