

HW

LESSON 12

Graphing Equations

The equation $y = x + 2$ is called a **linear equation**. If you graphed that equation on a coordinate plane, it would be a straight line. To make a graph of any linear equation, you can apply what you have learned about solving equations with 2 variables and plotting points on a coordinate plane.

Example

Graph the equation $y = x + 2$.

STEP 1 Set up the table to find ordered pairs.

STEP 2 Plug in a value for x and solve for y .

It is often a good idea to use 0 as your first value for x .

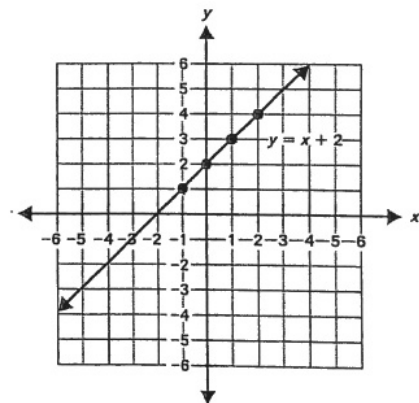
STEP 3 Repeat for 2 or 3 more values of x .

Select other values for x . Use both positive and negative integers.

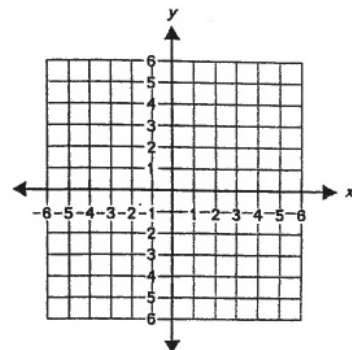
x	$y = x + 2$	y	Ordered Pair (x, y)
0	$y = 0 + 2$	2	(0, 2)
1	$y = 1 + 2$	3	(1, 3)
2	$y = 2 + 2$	4	(2, 4)
-1	$y = -1 + 2$	1	(-1, 1)

STEP 4 Plot the points on a coordinate grid.

STEP 5 Draw a line through the points.

**ON YOUR OWN**

Graph the equation $y = 2x - 1$.



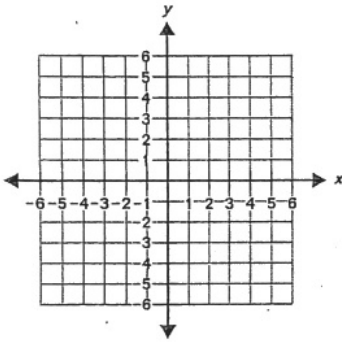
Practice

Building Skills

Complete each table. Then graph each equation.

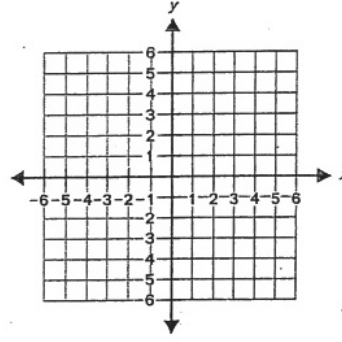
1. $y = x + 3$

x	$y = x + 3$	y	Ordered Pair



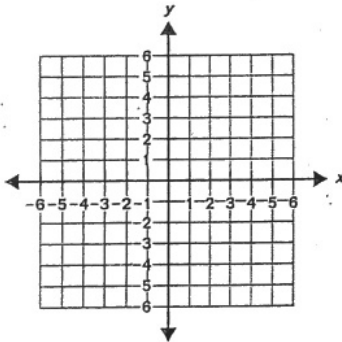
2. $y = x - 2$

x	$y = x - 2$	y	Ordered Pair



3. $y = 2x + 1$

x	$y = 2x + 1$	y	Ordered Pair

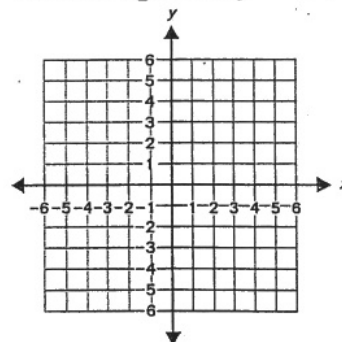


Problem Solving

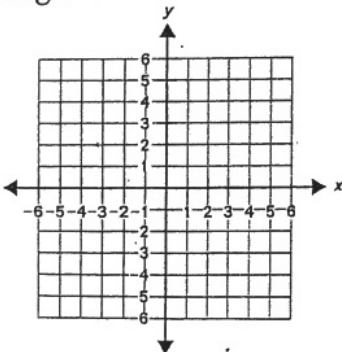
Write an equation. Then graph the equation.

4. A number is 4 more than another number.

Use the equation $y = x + 4$.



5. The temperature in Foster City is always 3 degrees lower than in Clarksville.



6. Whatever number Judy picks, Claire picks one that is 1 more than 3 times Judy's number:

