

Name _____ Date _____

Algebra: Use Functions and Graphs

How to Graph an Equation

- Step 1: Make a function table to find the ordered pairs.
- Step 2: Graph each ordered pair.

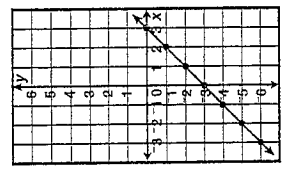
A function table can be used to show ordered pairs of a function. A graph can also show the ordered pairs of a function. Graph the equation $y = x - 3$ on a coordinate plane.

Step 1: Make a function table to find the ordered pairs. Use values for x from -3 to $+3$.

Rule: $y = x - 3$

x	y
-3	-6
-2	-5
-1	-4
0	-3
+1	-2
+2	-1
+3	0

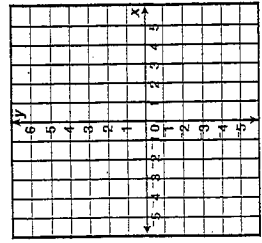
Step 2: Graph each ordered pair on a coordinate plane.



Find values of y to complete each table. Then graph each function on the grid paper.

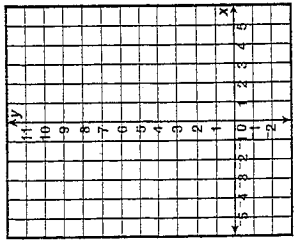
1. $y = x + 4$

x	y
-2	
-1	
0	
+1	
+2	



2. $y = (2x) + 3$

x	y
0	
1	
2	
3	
4	



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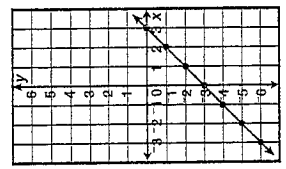
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Step 2: Graph each ordered pair on a coordinate plane.



Find three ordered pairs in the first quadrant for each function. Then use them to graph the function.

3. $y = 8x$ 4. $y = 2x + 5$ 5. $y = 3x - 4$ 6. $y = x + 3$

1. Function: $y = 4x - 2$

x	y
0	
1	
2	
3	

2. Function: $y = 3x + 2$

x	y
0	
1	
2	
3	

Problem Solving

Show Your Work

7. Ian said it is possible to determine if two points lie along the same vertical line by simply looking at their ordered pairs. Do you agree with Ian? Tell why or why not.

Equations and Graphs

R 12-7

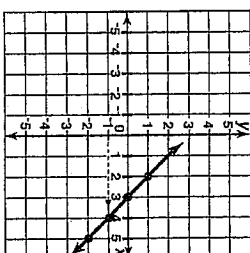
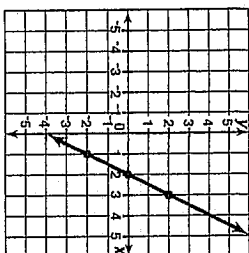
To graph a two-step equation, first make a T-table and fill in the values. Then use the coordinate pairs to graph the equation.

$y = 2x - 4$

x	y
1	-2
2	0
3	2

Solve the equation $-1 = 3 - x$.

The value of y is -1 , so first go to -1 on the y -axis. Then move across to the right. When you reach the graph line, move up to the x -axis. The x value is 4 . So, when $y = -1$, $x = 4$.



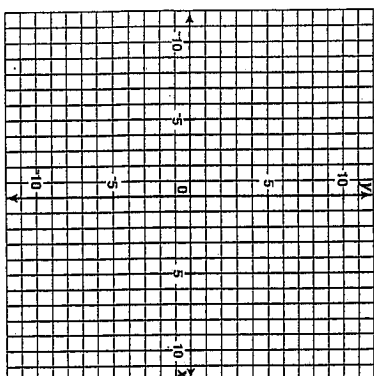
Equations and Graphs

P 12-7

Make a T-table. Then graph the equation.

1. $y = 3x - 5$

x	y



2. **Number Sense** Without graphing, tell whether the solution to $-4 = 3x + 2$ is positive or negative.

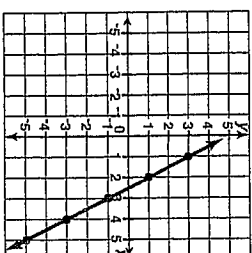
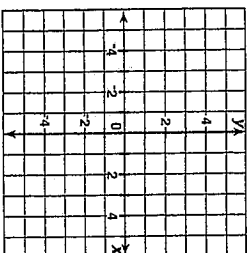
1. Complete the T-table, then graph the equation.

$y = 4x - 7$

x	y
1	
2	
3	

Use the graph of $y = 5 - 2x$ at the right to solve each equation.

- $-5 = 5 - 2x$ _____
- $-1 = 5 - 2x$ _____
- $-3 = 5 - 2x$ _____



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Test Prep

- Which is a solution for the equation $y = 3x + 7$?
 A. (3, 17) B. (4, 19) C. (3, 19) D. (4, 17)
- Writing in Math** For the equation $y = x - 4$, as the x value increases, will the y value increase or decrease? Explain.

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