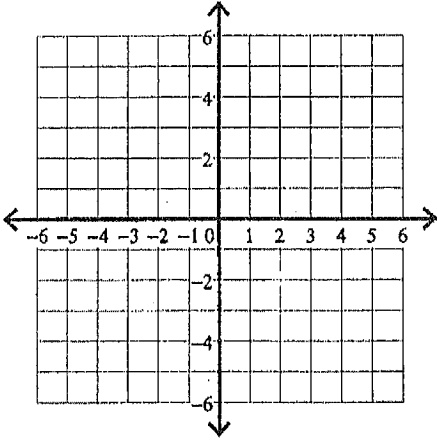


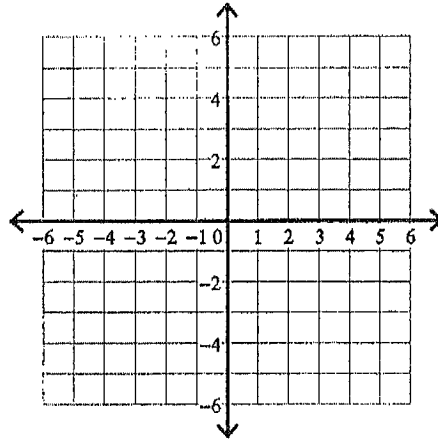
Graphing Lines

Sketch the graph of each line.

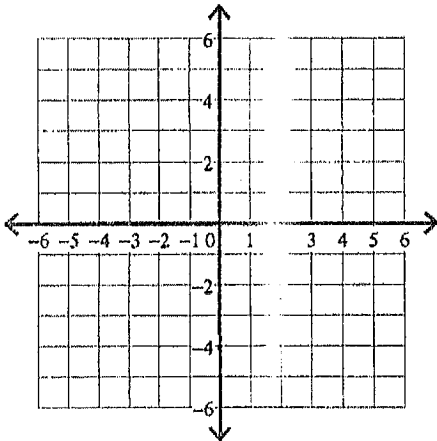
1) $y = -\frac{1}{5}x - 2$



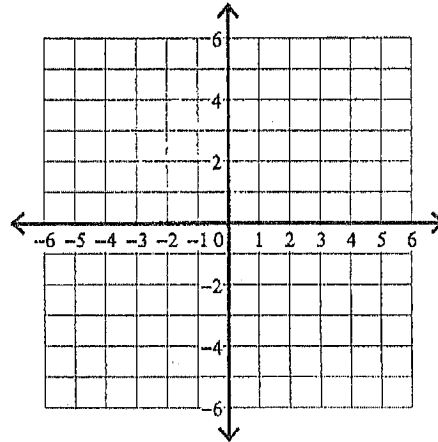
2) $y = -5x - 1$



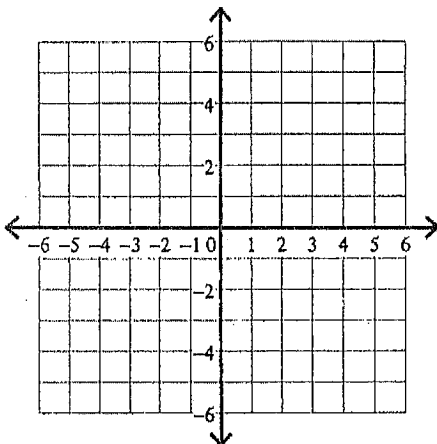
3) $y = -\frac{5}{2}x$



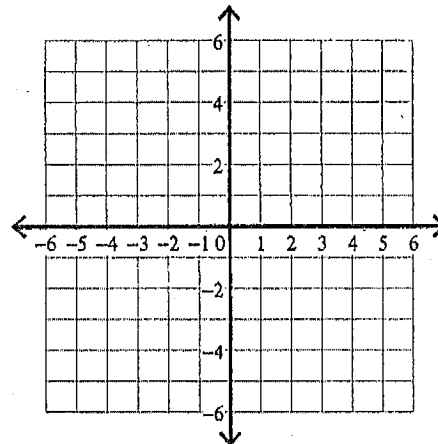
4) $y = -7x + 3$



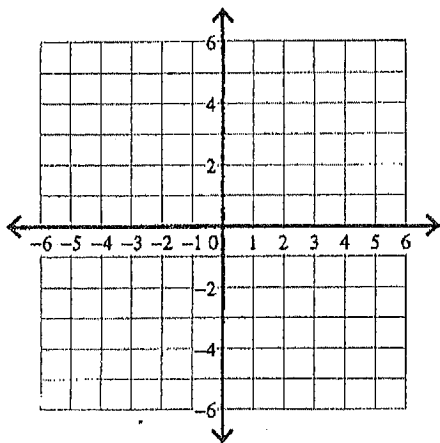
5) $y = 2x - 5$



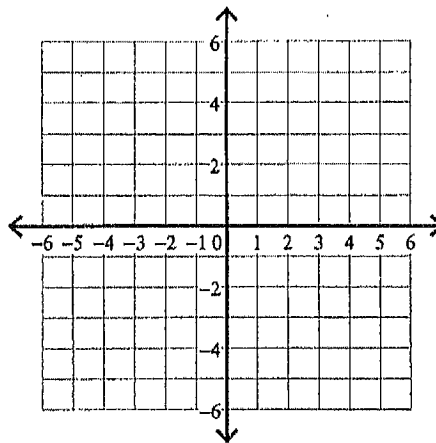
6) $y = -6x + 1$



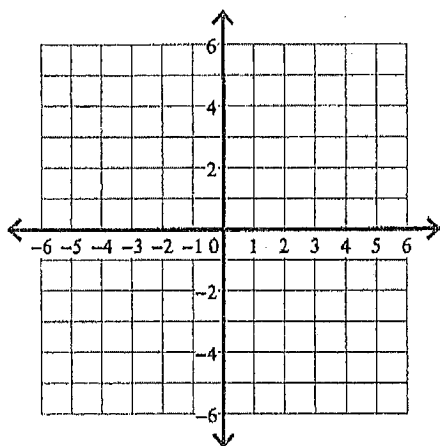
$$7) y = -\frac{1}{3}x + 4$$



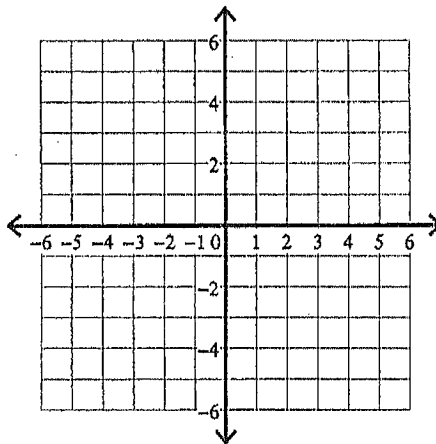
$$8) y = 0$$



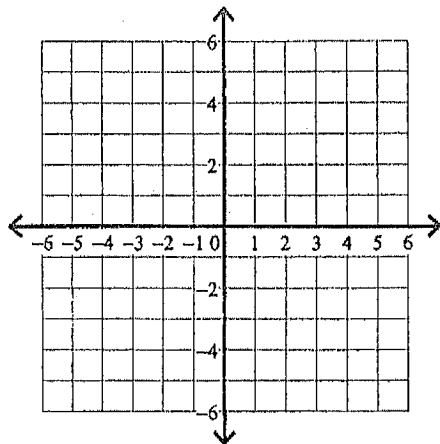
$$9) y = -\frac{2}{5}x - 4$$



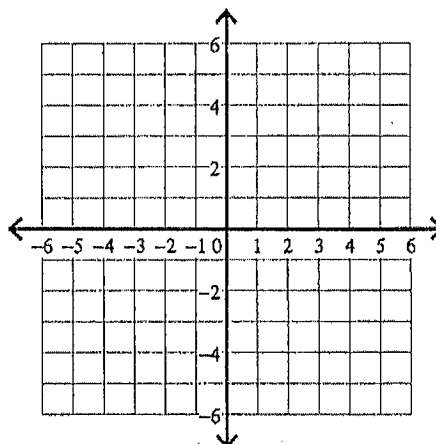
$$10) y = 7x - 5$$



$$11) y = -6x + 5$$



$$12) y = -\frac{5}{2}x + 5$$



Writing Linear Equations

Write the slope-intercept form of the equation of each line.

1) $3x - 2y = -16$

2) $13x - 11y = -12$

3) $9x - 7y = -7$

4) $x - 3y = 6$

5) $6x + 5y = -15$

6) $4x - y = 1$

7) $11x - 4y = 32$

8) $11x - 8y = -48$

Write the standard form of the equation of the line through the given point with the given slope.

9) through: (1, 2), slope = 7

10) through: (3, -1), slope = -1

11) through: (-2, 5), slope = -4

12) through: (3, 5), slope = $\frac{5}{3}$

13) through: (2, -4), slope = -1

14) through: (2, 5), slope = undefined

15) through: (3, 1), slope = $\frac{1}{2}$

16) through: (-1, 2), slope = 2

Write the point-slope form of the equation of the line described.

17) through: (4, 2), parallel to $y = -\frac{3}{4}x - 5$

18) through: (-3, -3), parallel to $y = \frac{7}{3}x + 3$

19) through: (-4, 0), parallel to $y = \frac{3}{4}x - 2$

20) through: (-1, 4), parallel to $y = -5x + 2$

21) through: (2, 0), parallel to $y = \frac{1}{3}x + 3$

22) through: (4, -4), parallel to $y = -x - 4$

23) through: (-2, 4), parallel to $y = -\frac{5}{2}x + 5$

24) through: (-4, -1), parallel to $y = -\frac{1}{2}x - 1$

LESSON
5-7

Review for Mastery

Point-Slope Form

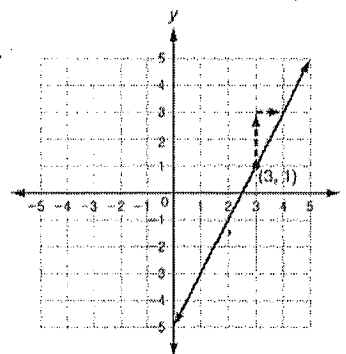
You can graph a line if you know the slope and any point on the line.

Graph the line with slope 2 that contains the point (3, 1).

Step 1: Plot (3, 1).

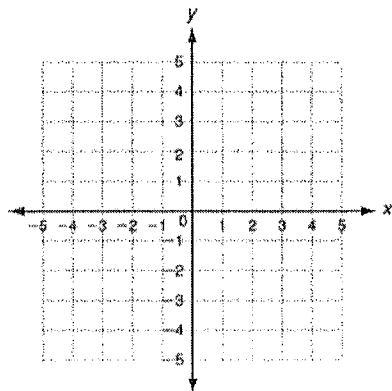
Step 2: The slope is 2 or $\frac{2}{1}$; Count 2 **up** and 1 **right** and plot another point.

Step 3: Draw a line connecting the points.

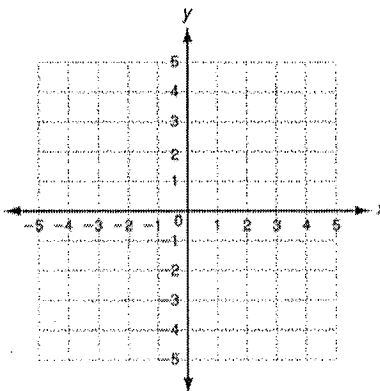


Graph the line with the given slope that contains the given point.

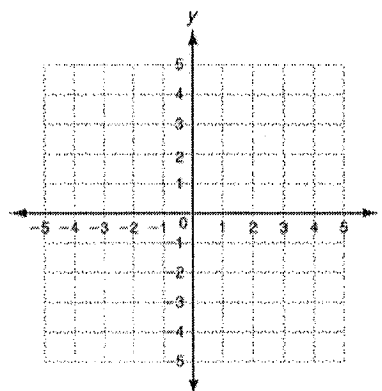
1. slope = $\frac{2}{3}$; (-3, -3)



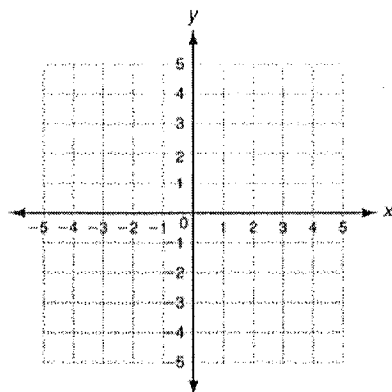
2. slope = $-\frac{1}{2}$; (-2, 4)



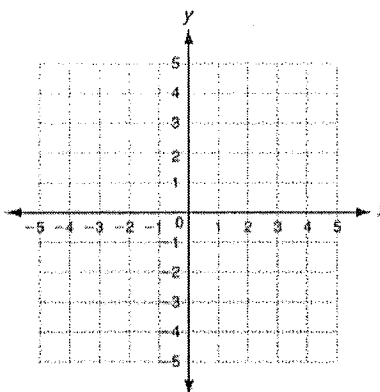
3. slope = 3; (-2, -2)



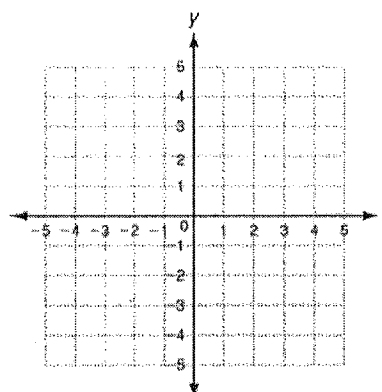
4. slope = $\frac{3}{2}$; (1, 2)



5. slope = -2; (-3, 2)



6. slope = $-\frac{2}{3}$; (2, 4)



LESSON
5-7

Review for Mastery

Point-Slope Form *continued*

You can write a linear equation in slope-intercept form if you are given the slope and a point on the line, or if you are given any two points on the line.

Write an equation that describes each line in slope intercept form.

slope = 3, (4, 2) is on the line

(10, 1) and (8, 5) are on the line

Step 1: Write the equation in point-slope form.

Step 1: Find the slope.

$$y - 2 = 3(x - 4)$$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{5 - 1}{8 - 10} = \frac{4}{-2} = -2$$

Step 2: Write the equation in slope-intercept form by solving for x

Step 2: Substitute the slope and one point into the point-slope form. Then write in slope-intercept form.

$$y - 2 = 3(x - 4)$$

$$y - y_1 = m(x - x_1)$$

$$y - 2 = 3x - 12$$

$$y - 5 = -2(x - 8)$$

$$\begin{array}{r} +2 \\ \hline y - 2 = 3x - 12 \end{array}$$

$$y - 5 = -2x + 16$$

$$y = 3x - 10$$

$$\begin{array}{r} +5 \\ \hline y - 5 = -2x + 16 \end{array}$$

$$y = -2x + 21$$

Write the equation that describes the line in slope-intercept form.

7. slope = -3; (1, 2) is on the line

8. slope = $\frac{1}{4}$; (8, 3) is on the line

9. slope = 4; (2, 8) is on the line

10. (1, 2) and (3, 12) are on the line

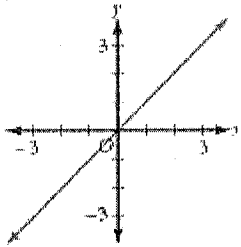
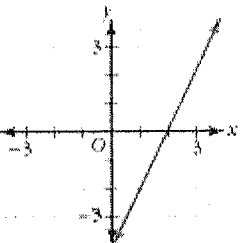
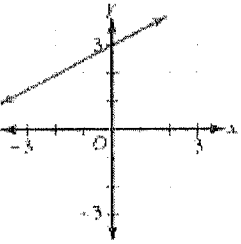
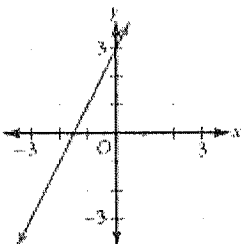
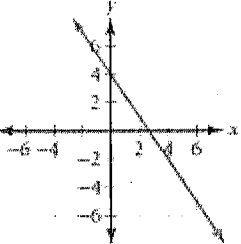
11. (6, 2) and (-2, -2) are on the line

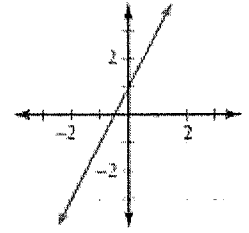
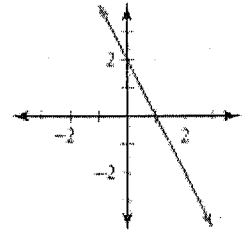
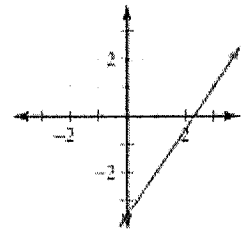
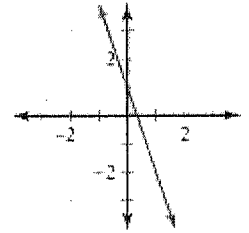
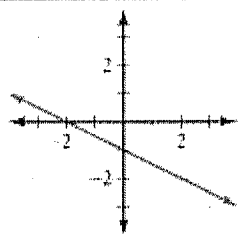
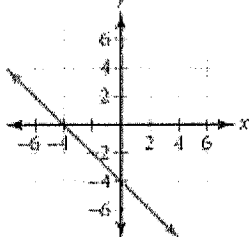
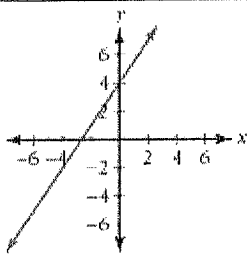
12. (4, 1) and (1, 4) are on the line

Algebra Lab
 Matching Graphs and Equations

Name _____

For each graph in the left hand column, find its matching equation in both slope-intercept form and point-slope form and glue the equation in the blank columns on the right.

Graph	Slope-Intercept Form	Point-Slope Form
		
		
		
		
		



$$y-1=1(x-1)$$

$$y=2x+3$$

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

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

$$y+2=-3(x-1)$$

$$y=\frac{3}{2}x-\frac{7}{2}$$

$$y=-x-4$$

$$y=2x-4$$

$$y=-3x+1$$

$$y-1=2(x+1)$$

$$y+2=2(x-1)$$

$$y=-\frac{3}{2}x+4$$

$$y-3=2(x-1)$$

$$y=x$$

$$y=\frac{3}{2}x+4$$

$$y+2=-2(x-2)$$

$$y=2x+1$$

$$y+2=\frac{3}{2}(x+4)$$

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

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

$$y=\frac{1}{2}x+3$$

$$y+2=-\frac{3}{2}(x-4)$$

$$y+6=-(x-2)$$

$$y=-2x+2$$