

Writing Linear Equations

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

1) $3x - 2y = -16$
 $\begin{array}{r} -3x \\ -3x \end{array}$

$$\frac{-2y = -3x - 16}{-2 \quad -2 \quad -2}$$

$$y = \frac{3}{2}x + 8$$

3) $9x - 7y = -7$
 $\begin{array}{r} -9x \\ -9x \end{array}$

$$\frac{-7y = -9x - 7}{-7 \quad 7 \quad -7}$$

$$y = \frac{9}{7}x + 1$$

5) $6x + 5y = -15$
 $\begin{array}{r} -6x \\ -6x \end{array}$

$$\frac{5y = -6x - 15}{5 \quad 5 \quad 5}$$

$$y = -\frac{6}{5}x - 3$$

7) $11x - 4y = 32$
 $\begin{array}{r} -11x \\ -11x \end{array}$

$$\frac{-4y = -11x + 32}{-4 \quad -4 \quad -4}$$

$$y = \frac{11}{4}x - 8$$

2) $13x - 11y = -12$
 $\begin{array}{r} -13x \\ -13x \end{array}$

$$\frac{-11y = -13x - 12}{-11 \quad -11 \quad -11}$$

$$y = \frac{13}{11}x + \frac{12}{11}$$

4) $x - 3y = 6$
 $\begin{array}{r} -x \\ -x \end{array}$

$$\frac{-3y = -x + 6}{-3 \quad -3 \quad -3}$$

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

6) $4x - y = 1$
 $\begin{array}{r} -4x \\ -4x \end{array}$

$$\frac{-y = -4x + 1}{-1 \quad -1 \quad -1}$$

$$y = 4x - 1$$

8) $11x - 8y = -48$
 $\begin{array}{r} -11x \\ -11x \end{array}$

$$\frac{-8y = -11x - 48}{-8 \quad -8 \quad -8}$$

$$y = \frac{11}{8}x + 6$$

Standard Form of a Linear Equation
Worksheet

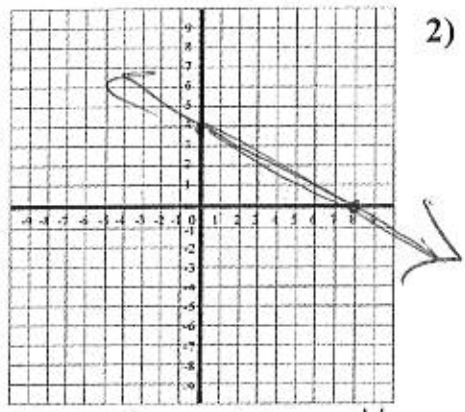
Key

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Date _____ Block _____

Find the x- and y-intercepts of each equation and then graph the line.

1) $x + 2y = 8$

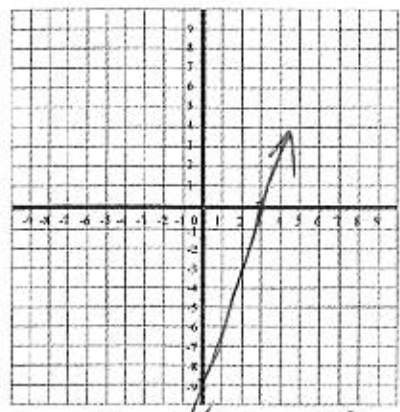
$x = 8$
 $\frac{2y}{2} = \frac{8}{2}$
 $y = 4$



x-int = 8 y-int = 4

2) $3x - y = 9$

$-y = 9$
 $y = -9$
 $\frac{3x}{3} = \frac{9}{3}$
 $x = 3$

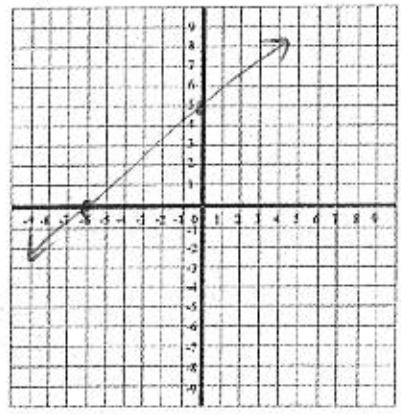


x-int = 3 y-int = -9

3) $-5x + 6y = 30$

$\frac{-5x}{-5} = \frac{30}{-5}$
 $x = -6$

$\frac{6y}{6} = \frac{30}{6}$
 $y = 5$

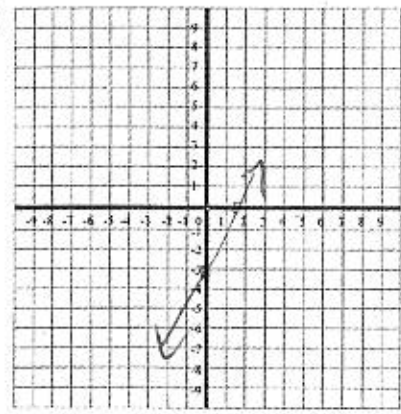


x-int = -6 y-int = 5

4) $-6x + 3y = -9$

$\frac{-6x}{-6} = \frac{-9}{-6}$
 $x = \frac{3}{2}$

$\frac{3y}{3} = \frac{-9}{3}$
 $y = -3$

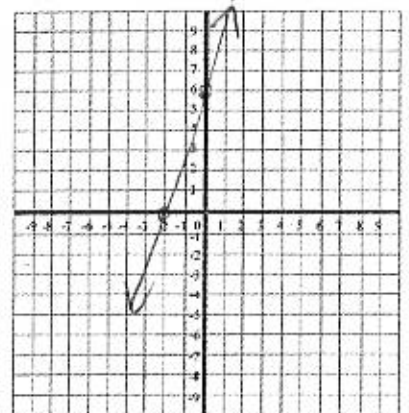


x-int = $\frac{3}{2}$ y-int = -3

5) $-3x + y = 6$

$\frac{-3x}{-3} = \frac{6}{-3}$
 $x = -2$

$y = 6$

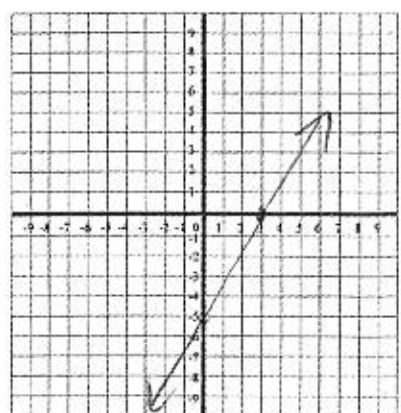


x-int = -2 y-int = 6

6) $5x - 3y = 15$

$\frac{5x}{5} = \frac{15}{5}$
 $x = 3$

$\frac{-3y}{-3} = \frac{15}{-3}$
 $y = -5$



x-int = 3 y-int = -5

BACK →

Name _____

Date: _____

Period: _____

Key

Point-Slope Form (Practice Worksheet)

Write an equation in point-slope form of the line that passes through the given point and has the given slope.

① (2, 7); $m = -4$

$$y - 7 = -4(x - 2)$$

② (12, 5); $m = -3$

$$y - 5 = -3(x - 12)$$

③ (4, -5); $m = 6$

$$y + 5 = 6(x - 4)$$

④ (-6, -2); $m = 3$

$$y + 2 = 3(x + 6)$$

⑤ (7, -6); $m = \frac{1}{2}$

$$y + 6 = \frac{1}{2}(x - 7)$$

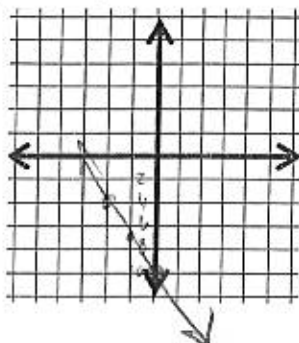
⑥ (-8, 2); $m = -\frac{3}{4}$

$$y - 2 = -\frac{3}{4}(x + 8)$$

Graph the equations below.

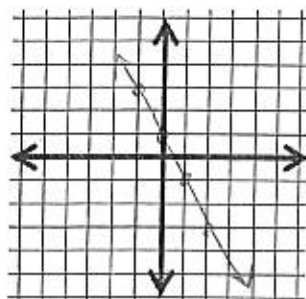
⑦ $y + 4 = -3(x + 2)$

$$\begin{aligned} y + 4 &= -3x - 6 \\ y &= -3x - 10 \end{aligned}$$



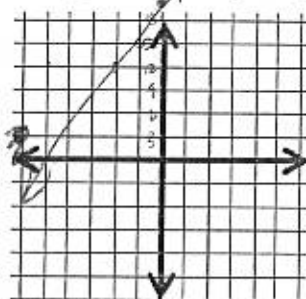
⑧ $y + 3 = -2(x - 2)$

$$\begin{aligned} y + 3 &= -2x + 4 \\ y &= -2x + 1 \end{aligned}$$



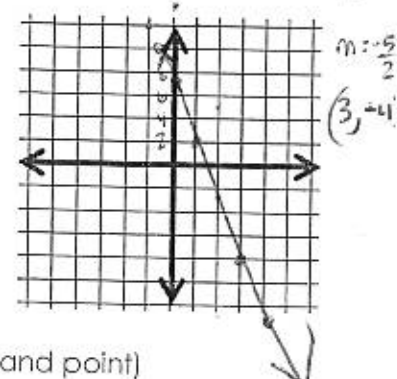
⑨ $y - 1 = 3(x + 6)$

$$\begin{aligned} y - 1 &= 3x + 18 \\ y &= 3x + 19 \end{aligned}$$

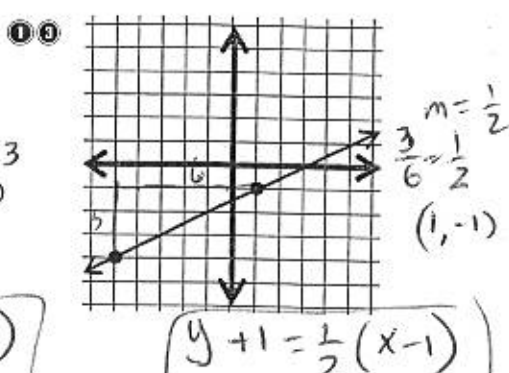
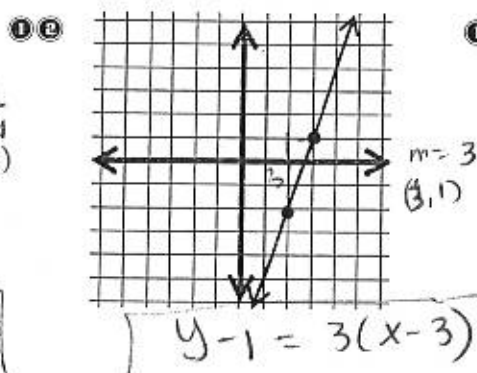
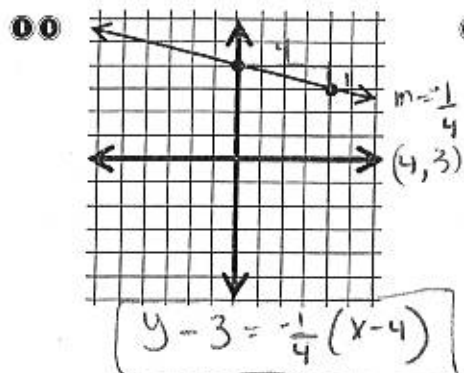


⑩ $y + 4 = -\frac{5}{2}(x - 3)$

$$\begin{aligned} y + 4 &= -\frac{5}{2}x + \frac{15}{2} \\ y &= -\frac{5}{2}x + \frac{15}{2} - 4 \\ y &= -\frac{5}{2}x + \frac{7}{2} \end{aligned}$$



Write an equation in point-slope form of the line graphed below. (Use the right hand point)



Write an equation in point-slope form of the line that passes through the two points given. Use the first point to write the equation.

⑪ (4, 7) and (5, 1)

$$m = \frac{7 - 1}{4 - 5} = \frac{6}{-1} = -6$$

$$y - 7 = -6(x - 4)$$

⑫ (9, -2) and (-3, 2)

$$m = \frac{-2 - 2}{9 - (-3)} = \frac{-4}{12} = -\frac{1}{3}$$

$$y + 2 = -\frac{1}{3}(x - 9)$$

⑬ (3, -8) and 7(-2)

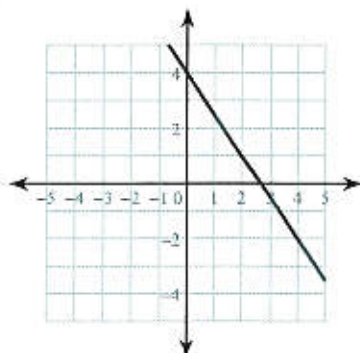
$$m = \frac{-8 - (-2)}{3 - 7} = \frac{-6}{-4} = \frac{3}{2}$$

$$y + 8 = \frac{3}{2}(x - 3)$$

Writing Linear Equations

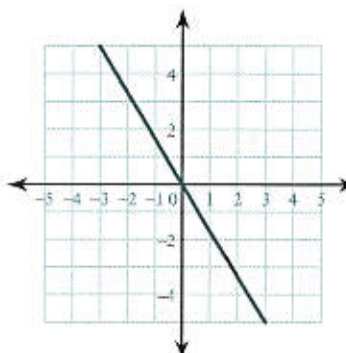
Write the slope-intercept form of the equation of each line.

1)



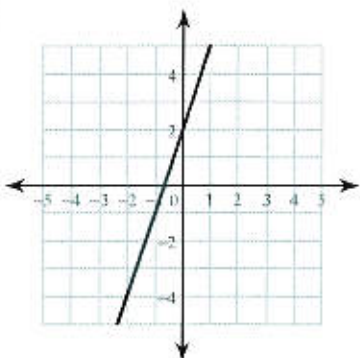
$$y = -\frac{3}{2}x + 4$$

2)



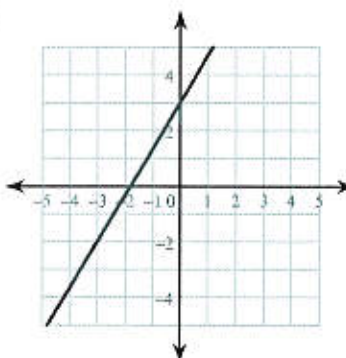
$$y = -\frac{5}{3}x$$

3)



$$y = 3x + 2$$

4)



$$y = \frac{5}{3}x + 3$$