

099 § 3.5 I #s 2, 6, 7, 12, 18, 21, 24, 34

Use slope-intercept form of the linear equation to write the equation of each line with the given slope & y-intercept.

#s 1-6

(2) Slope  $\frac{1}{2}$ ; y-int  $(0, -6)$

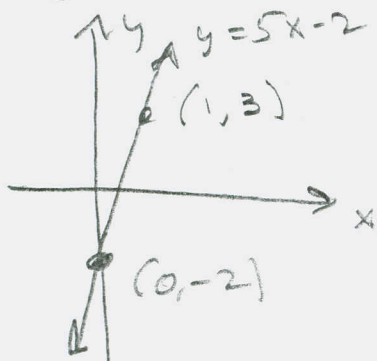
$$y = \frac{1}{2}x - 6$$

(6) Slope  $-\frac{4}{5}$ ; y-int  $(0, 0)$

$$y = -\frac{4}{5}x$$

#s 7-12: Graph each linear equation, using slope & y-intercept.

(7)  $y = 5x - 2$

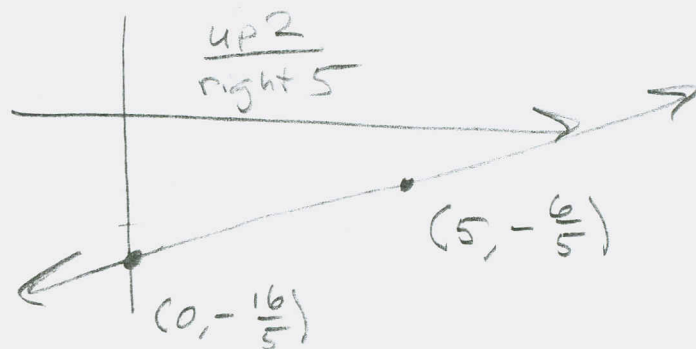


UP 5  
RIGHT 1

(12)  $-2x + 5y = -16$

$$5y = 2x - 16$$

$$y = \frac{2}{5}x - \frac{16}{5}$$



Scratch:  $-\frac{16}{5} + 2$

$$= \frac{-16 + 10}{5} = -\frac{6}{5}$$

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#s 13-20 Find an equation of the line with the given slope & given point. Write the equation in slope-intercept form.

(18) Slope  $\frac{2}{3}$ ; thru  $(-9, 4)$

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

$$y - 4 = \frac{2}{3}(x - (-9))$$

$$y - 4 = \frac{2}{3}(x + 9)$$

$$y - 4 = \frac{2}{3}x + \left(\frac{2}{3}\right)(9)$$

$$y - 4 = \frac{2}{3}x + 6$$

$$\boxed{y = \frac{2}{3}x + 10}$$

#s 21-30 Write an equation of the line thru the given points. Use function notation.

(21)  $(x_1, y_1) = (2, 0)$ ;  $(x_2, y_2) = (4, 6)$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{6 - 0}{4 - 2} = \frac{6}{2} = 3 = m$$

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

$$y - 0 = 3(x - 2)$$

$$y = 3x - 6$$

$$\boxed{f(x) = 3x - 6}$$

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(24)  $(x_1, y_1) = (7, -4)$ ,  $(x_2, y_2) = (2, 6)$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{6 - (-4)}{2 - 7} = \frac{10}{-5} = \underline{-2} = m$$

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

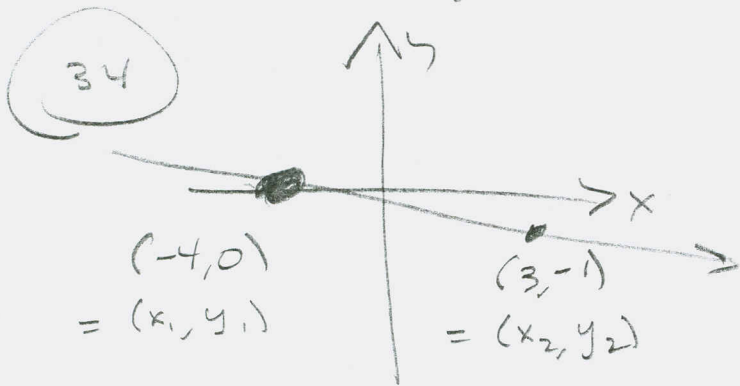
$$y - (-4) = -2(x - 7)$$

$$y + 4 = -2x + 14$$

$$y = -2x + 10$$

$$\boxed{f(x) = -2x + 10}$$

#5 31-34 Find an equation of the line in the graph. Write in STANDARD FORM.



$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-1 - 0}{3 - (-4)}$$

$$= \frac{-1}{7} = m$$

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

$$y - 0 = -\frac{1}{7}(x - (-4))$$

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

$$7y = -x - 4$$

$$\boxed{x + 7y = -4}$$