

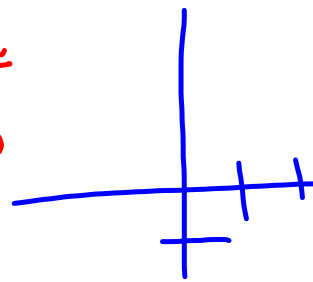
5-5 Find the x and y intercepts.

Then graph the line

$$3x - 4y = 12 \quad 3(6)$$

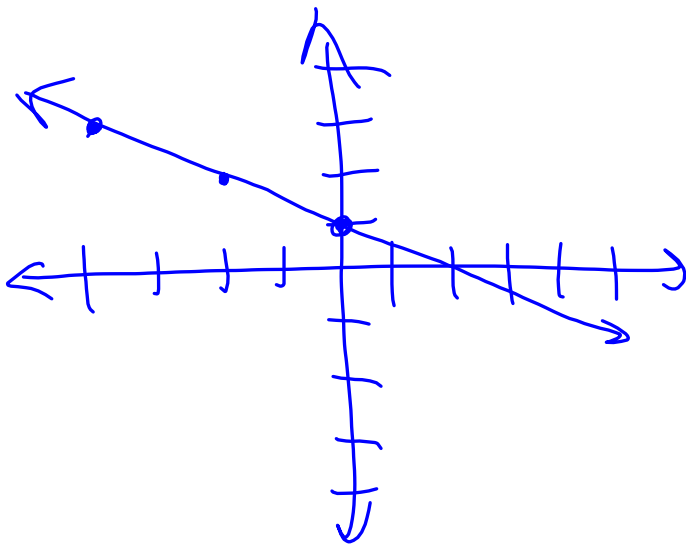
$$\frac{3}{3}x = \frac{12}{3}$$

$$x = 4$$



Graph  $y - 3 = -\frac{1}{2}(x + 4)$

pt:  $(-4, 3)$   $m = -\frac{1}{2}$

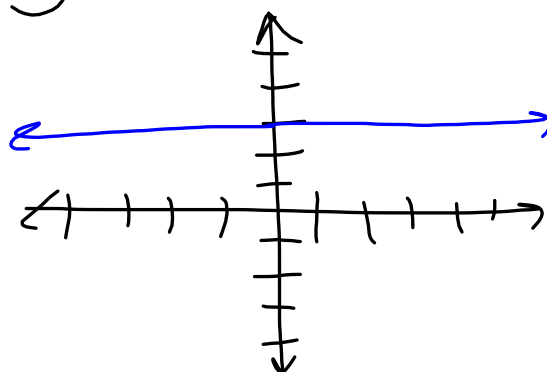


$$\begin{array}{r} y - 3 = -\frac{1}{2}x - 2 \\ +3 \qquad \qquad +3 \\ \hline \end{array}$$

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

Graph

$$y = 3$$



Write the equation.

Sally has \$32 to buy her family cheeseburgers \$5 or hot dogs \$3. Write an equation to find how many of each she could buy.

$$5x + 3y = 32$$

Write equation S.F.  $Ax + By = C$   
 parallel to  $y = 3x - 5$   $AB \neq 0$  int.  
 through  $(1, -2)$   $m = 3$   $A \geq 0$   
 $y - y_1 = m(x - x_1)$

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

$$y + 2 = 3x - 3$$

$$\begin{array}{r} y + 2 = 3x - 3 \\ -2 \qquad -2 \\ \hline y = 3x - 5 \end{array}$$

$$\begin{array}{r} y = 3x - 5 \\ -3x \quad -3x \\ \hline -3x + y = -5 \\ \frac{-3x}{-1} \quad \frac{y}{-1} \quad \frac{-5}{-1} \\ \hline 3x - y = 5 \end{array}$$

perp. to  
 $y = \frac{2}{3}x + 7$   
 through  $(4, -6)$

perpendicular to  $y = \frac{2}{3}x + 7$ ,  
 through  $(4, -6)$   $m = \frac{2}{3}$   
 $m = -\frac{3}{2}$

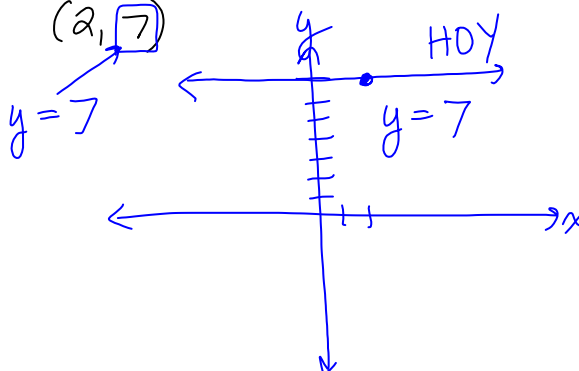
$$y + 6 = -\frac{3}{2}(x - 4)$$

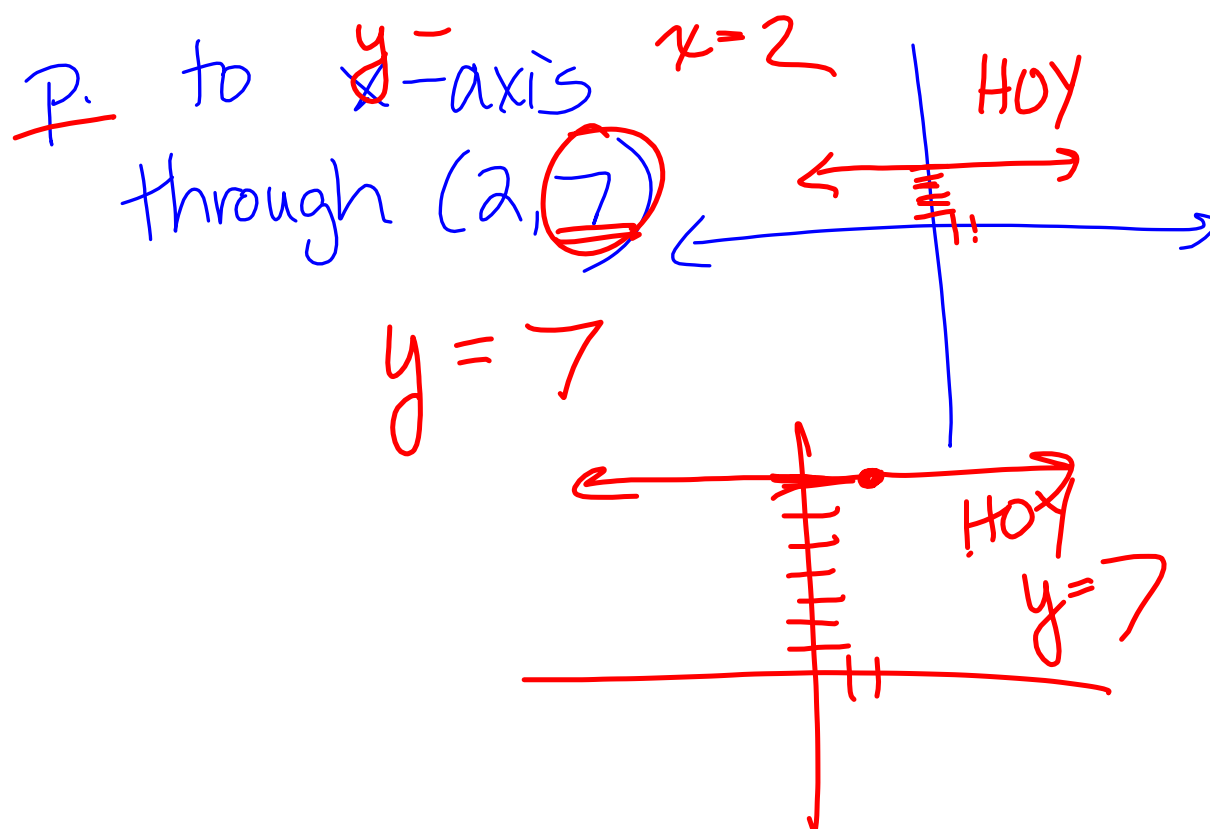
$$y + 6 = -\frac{3}{2}x + 6$$

$$\begin{array}{r} y + 6 = -\frac{3}{2}x + 6 \\ -6 \qquad -6 \\ \hline y = -\frac{3}{2}x \\ +\frac{3}{2}x \quad +\frac{3}{2}x \\ \hline \end{array}$$

$$2\left(\frac{3}{2}x + y = 0\right) \rightarrow 3x + 2y = 0$$

parallel to x-axis  
 through  $(2, 7)$

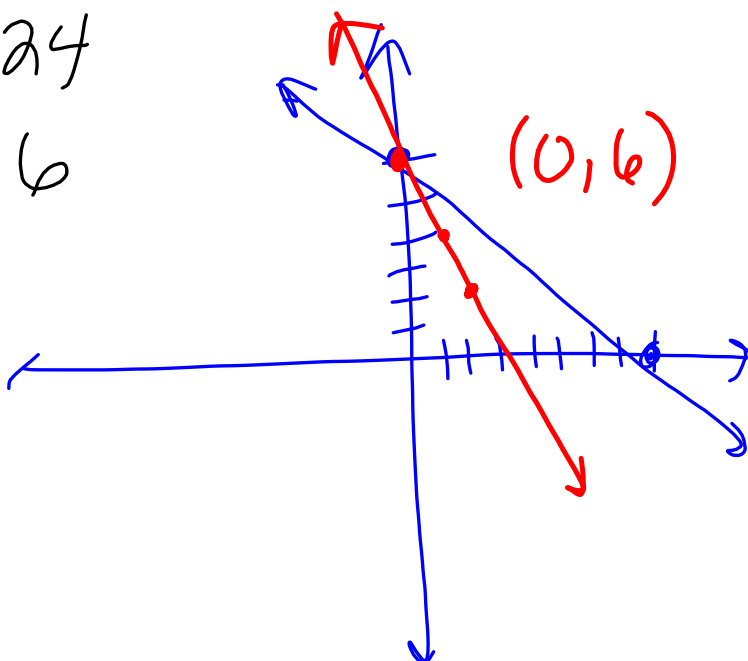




Solve by graphing

$$3x + 4y = 24$$

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



Sub.

$$\begin{array}{r} x + 2y = 7 \\ -2y \quad -2y \\ \hline 3x - 5y = -1 \end{array} \quad \begin{array}{l} x = -2y + 7 \\ x = -2(2) + 7 \end{array}$$

$$3(-2y + 7) - 5y = -1 \quad x = -4 + 7$$

$$-6y + 21 - 5y = -1$$

$$\begin{array}{r} -11y + 21 = -1 \\ \quad -21 \quad -21 \end{array}$$

$$(3, 2)$$

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$$\frac{-11y}{-11} = \frac{-22}{+11}$$

$$y = 2$$

Solve by graphing -

$$y \leq 3x - 2$$

$$\begin{array}{r} 2x - y > 5 \\ -2x \quad -2x \end{array}$$

$$\begin{array}{r} -y > -2x + 5 \\ \frac{-y}{-1} > \frac{-2x + 5}{-1} \\ y < 2x - 5 \end{array}$$

