

1) (5 points) Solve the following equation.

$$8 - 4(2x - 3) + 5x = 3(4x - 3) - 3$$

$$8 - 8x + 12 + 5x = 12x - 9 - 3$$

$$-3x + 20 = 12x - 12$$

$$-15x = -32$$

$$x = \frac{32}{15}$$

23) (5 points) Solve the inequality given below. Graph the solution set.

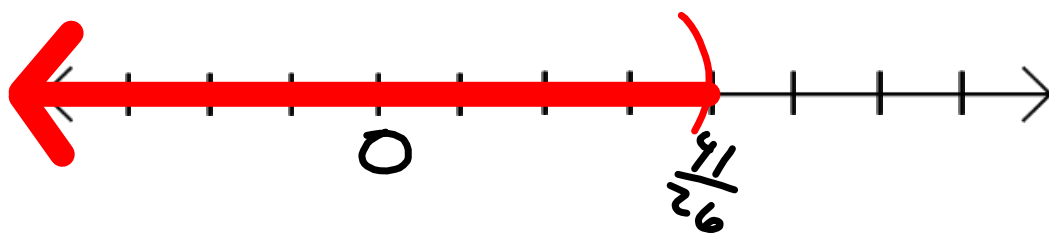
$$4(5x - 7) - 6 < -2(3x - 4) - 1$$

$$20x - 28 - 6 < -6x + 8 - 1$$

$$20x - 34 < -6x + 7$$

$$26x < 41$$

$$x < \frac{41}{26}$$



3 4) (4 points) Solve the following Equation.

$$|5x - 11| + 2 = 7$$

$$|5x - 11| = 5$$

$$5x - 11 = 5$$

$$5x = 16$$

$$x = \frac{16}{5}$$

$$5x - 11 = -5$$

$$5x = 6$$

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

$$x = \frac{16}{5}, \frac{6}{5}$$

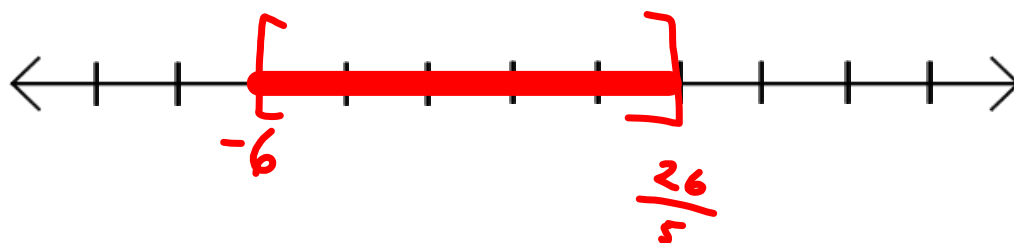
4 5) (5 points) Solve and graph

$$|5x + 2| \leq 28$$

$$\begin{array}{ccc} -28 & \leq & 5x+2 & \leq & 28 \\ \underline{-2} & & \underline{-2} & & \underline{-2} \end{array}$$

$$-30 \leq 5x \leq 26$$

$$-6 \leq x \leq \frac{26}{5}$$



5 (5 points) Solve and graph

$$5|3w + 2| - 3 > 7$$

$$\frac{5|3w + 2|}{5} > \frac{10}{5}$$

$$|3w + 2| > 2$$

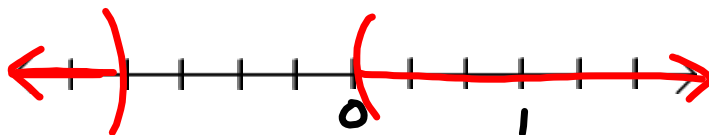
THIS MUST BE MORE THAN 2 UNITS FROM 0.
IT CAN BE > 2 OR < -2

$$3w + 2 < -2 \quad \text{OR} \quad 3w + 2 > 2$$

$$3w < -4$$

$$3w > 0$$

$$w < -\frac{4}{3} \quad \text{OR} \quad w > 0$$



6) (5 points) Find the equation of the line passing through the points $(-2, 5)$ and $(-1, -3)$.

$$M = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-3 - 5}{-1 - (-2)} = \frac{-8}{1} = -8$$

$$y = -8x + b$$

$$\text{At } (-1, -3)$$

$$-3 = -8(-1) + b$$

$$-3 = 8 + b$$

$$\frac{-8 \quad -8}{-11 = b}$$

$$-11 = b$$

$$y = -8x - 11$$

7 8) (5 points) Find the equation of the line passing through the point $(-4, -3)$ and that is parallel to the line $4x - 7y = 9$.

$$4x - 7y = 9$$

$$y = mx + b$$

$$-7y = -4x + 9$$

$$y = \frac{4}{7}x - \frac{9}{7}$$

$$m = \frac{4}{7}$$

$$m_{||} = \frac{4}{7}$$

$$y = \frac{4}{7}x + b$$

$$\text{At } (-4, -3)$$

$$-3 = \frac{4}{7}(-4) + b$$

$$-3 = -\frac{16}{7} + b$$

$$b = -\frac{5}{7}$$

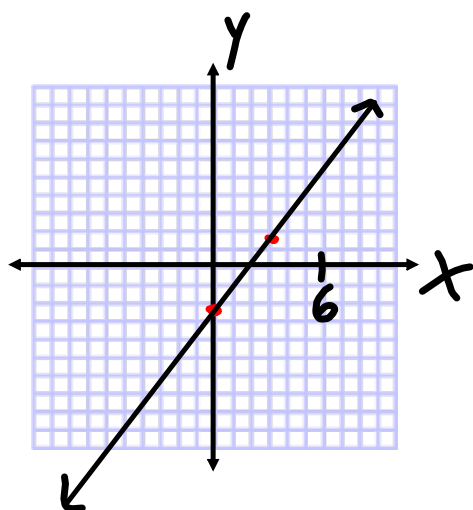
$$y = \frac{4}{7}x - \frac{5}{7}$$

89) (5 points) Graph the linear equation given below.

$$4x - 3y = 7$$

$$-3y = -4x + 7$$

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



912) (5 points) Graph the inequality given below.

