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.

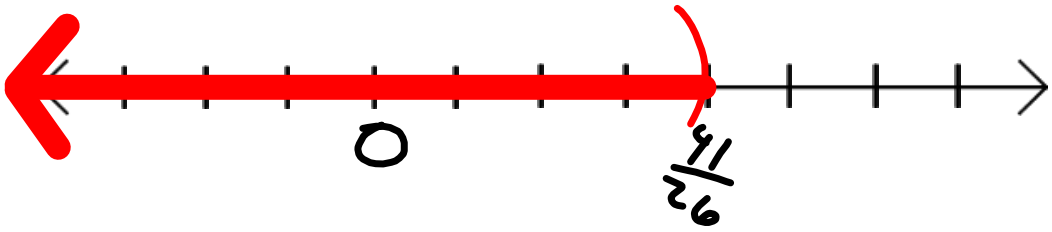
$4(5x - 7) - 6 < -2(3x - 4) - 1$

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

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

$26x < 41$

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



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

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

$|5x-11| = 5$

$5x-11 = 5$ $\qquad$ $5x-11 = -5$

$5x = 16$ $\qquad$ $5x = 6$

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

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

4 5) (5 points) Solve and graph

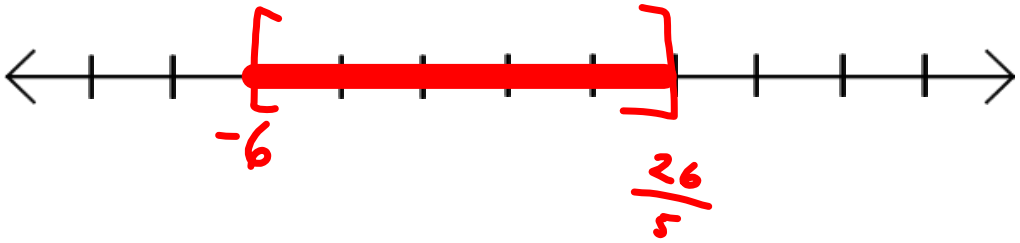
$$|5x + 2| \leq 28$$

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

$-2 \quad -2 \quad -2$

$-30 \leq 5x \leq 26$

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



5) (5 points) Solve and graph

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

$+3 \quad +3$

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

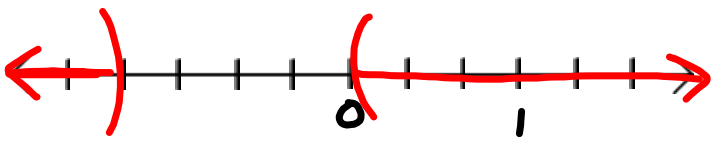
$|3w+2| > 2$

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

$3w+2 < -2$ or $3w+2 > 2$

$3w < -4$ $\quad$ $3w > 0$

$w < -\frac{4}{3}$ or $w > 0$



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

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

$$y = -8x + b$$

At $(-1,-3)$

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

$$-3 = 8 + b$$

$$-8 \quad -8$$

$$-11 = b$$

$$y = -8x - 11$$

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

$4x - 7y = 9$

$-7y = -4x + 9$

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

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

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

$y = mx + b$

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

At $(-4, -3)$

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

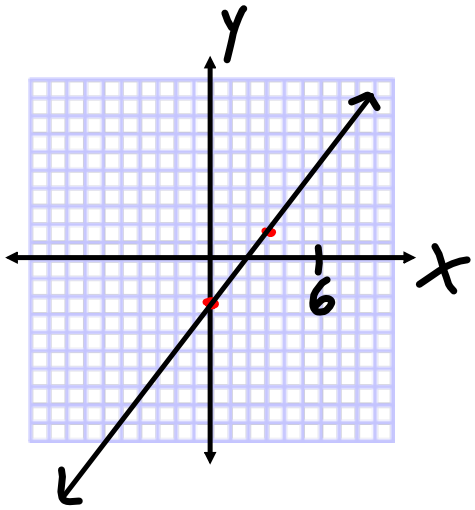
$-3 = -\frac{16}{7} + b$

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

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

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

$4x - 3y = 7$

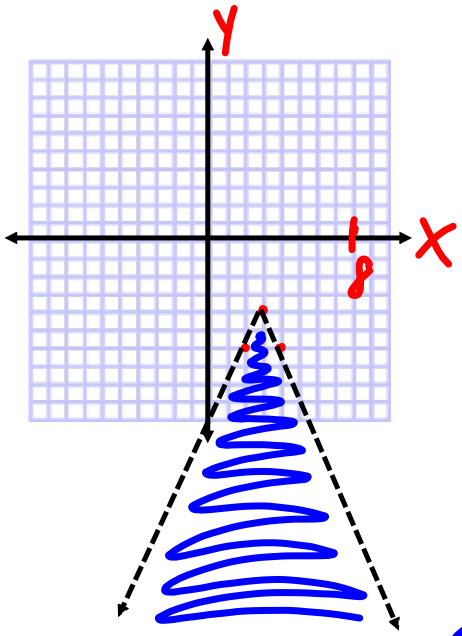


$-3y = -4x + 7$

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

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

$y < -2|x - 3| - 4$



RIGHT 3

DOWN 4

OPENS DOWN

TWICE AS STEEP

DASHED

SHADED BELOW

(SOLVE FOR y)