

key

1) Simplify:

$$3(-5x + 4) - 7(4x - 3)$$

$$-15x + 12 - 28x + 21$$

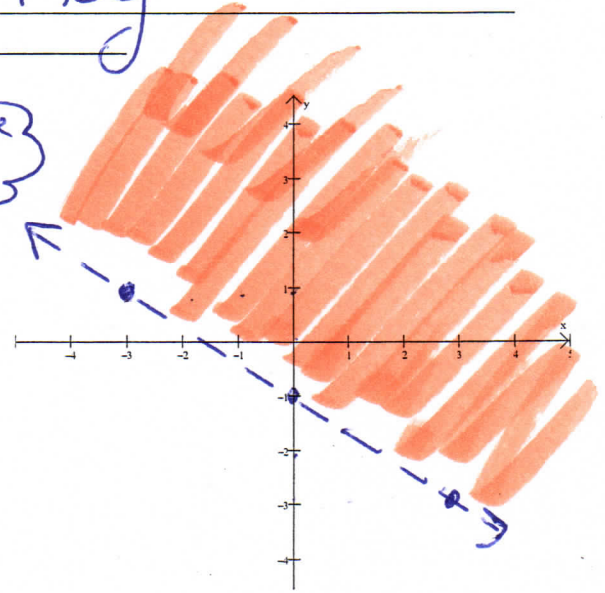
$$-43x + 33$$

combine like terms

2) Graph the linear inequality

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

x	y
3	-3
0	-1
-3	1



3) Solve the system of linear equations using substitution

$$-x - (6x - 5) = -9$$

$$-x - 6x + 5 = -9$$

$$-7x + 5 = -9$$

$$-7x = -14$$

$$x = 2$$

$$y = 6x - 5$$

$$y = 6(2) - 5$$

$$y = 12 - 5$$

$$y = 7$$

Solution: (2, 7)

4) Simplify

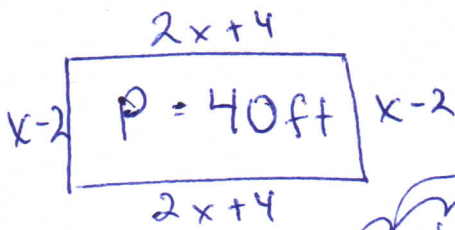
$$-4x^3(x^2y^3)^4$$

$$-4x^3(x^2y^3)(x^2y^3)(x^2y^3)(x^2y^3)$$

$$-4x^3x^2x^2x^2x^2y^3y^3y^3y^3 = -4x^{14}y^{12}$$

$$-4x^{14}y^{12}$$

5) Perimeter Question: A rectangle garden has a length of  $2x + 4$  and a width of  $x - 2$  and a perimeter of 40 feet. What is the length and width of the garden to the nearest foot? (Draw a picture)



$$P = 2l + 2w$$

$$40 = 2(2x + 4) + 2(x - 2)$$

$$40 = 4x + 8 + 2x - 4$$

$$40 = 6x + 4$$

$$-4 \quad -4$$

$$36 = 6x$$

$$x = 6$$

substitute

$$\text{length} = 2(6) + 4 = 16 \text{ feet}$$

$$\text{width} = (6) - 2 = 4 \text{ feet}$$

Bonus!! Simplify

$$\left( \frac{-6x^2z^3}{2y^4y} \right)^2 =$$

$$\left( \frac{-6x^2y^{-4}}{2z^{-3}y} \right)^2$$

$$\left( \frac{-6x^2z^3}{2y^4y} \right) \left( \frac{-6x^2z^3}{2y^4y} \right) = \frac{(-6)(-6)x^2 \cdot x^2 \cdot z^3 \cdot z^3}{(2)(2)y^4 \cdot y^4 \cdot y \cdot y} = \frac{36x^4z^6}{4y^{10}} = \frac{9x^4z^6}{y^{10}}$$