

Algebra 1 Quiz 11.8.13
Version B

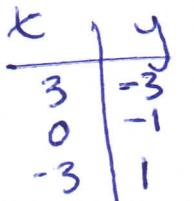
Exponent Pro _____
period _____

1) Simplify: $3(-5x + 4) - 7(4x - 3)$

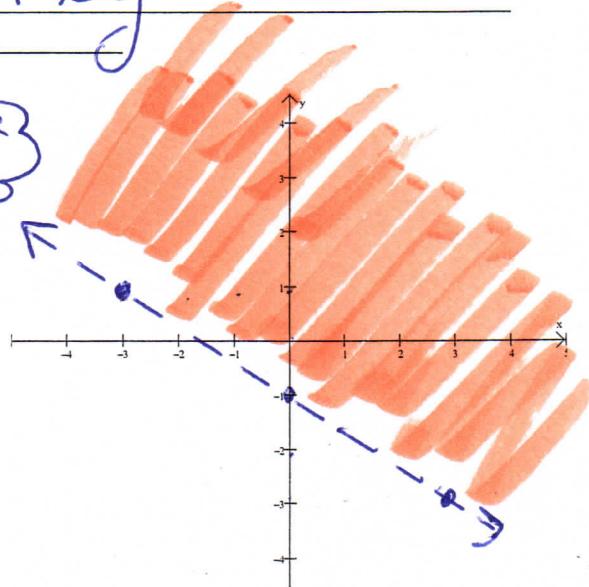
$$\begin{array}{r} 3(-5x + 4) \\ - 7(4x - 3) \\ \hline -15x + 12 - 28x + 21 \\ \hline -43x + 33 \end{array}$$

combine like terms

2) Graph the linear inequality



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



3) Solve the system of linear equations using substitution

$$\begin{aligned} -x - (6x - 5) &= -9 \\ -x - 6x + 5 &= -9 \\ -7x &= -9 \\ -7x &= -9 \\ -7x &= -14 \end{aligned}$$

$x = 2$

$$\begin{aligned} y &= 6x - 5 \\ -x - y &= -9 \\ y &= 6x - 5 \\ y &= 6(2) - 5 \\ y &= 12 - 5 \\ y &= 7 \end{aligned}$$

solution: (2, 7)

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

$$\begin{aligned} -4x^3(x^2y^3)(x^2y^3)(x^2y^3)(x^2y^3) \\ -4x^3x^2x^2x^2x^2y^3y^3y^3y^3 \\ x^{\text{''}} \qquad y^{12} \end{aligned} = -4x^{\text{''}}y^{12}$$

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)

$$\begin{array}{c} 2x+4 \\ \boxed{x-2} \qquad \qquad x-2 \\ P = 40 \text{ ft} \\ 2x+4 \end{array}$$

$P = 2l + 2w$

$$\begin{aligned} 40 &= 2(2x+4) + 2(x-2) \\ 40 &= 4x + 8 + 2x - 4 \\ 40 &= 6x + 4 \end{aligned}$$

$\begin{aligned} 36 &= 6x \\ x &= 6 \end{aligned}$

Substitute

$$\begin{aligned} \text{length} &= 2(6) + 4 = 16 \text{ feet} \\ \text{width} &= (6) - 2 = 4 \text{ feet} \end{aligned}$$

Bonus!! Simplify $\left(\frac{-6x^2z^3}{2y^4y}\right)^2 = \left(\frac{-6x^2z^3}{2y^5}\right)^2$

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

$$\left(\frac{-6x^2z^3}{2y^4y}\right)\left(\frac{-6x^2z^3}{2y^4y}\right) = \frac{(-6)(-6)x^2 \cdot x^2 \cdot z^3 \cdot z^3}{(2)(2)y^4 \cdot y^4 \cdot y \cdot y} = \frac{36x^4z^6}{4y^8} = \frac{9x^4z^6}{y^8}$$

$$\frac{9x^4z^6}{y^8}$$