

Algebra 1 Quiz

10.25.13

Version B

Systems expert _____

period _____

Key

1) Simplify: $5(2x + 3) - 4(x - 5)$

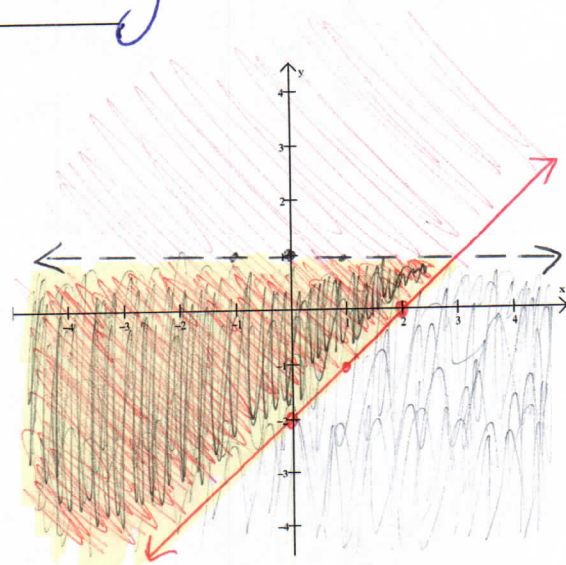
$$10x + 15 - 4x + 20$$

$$6x + 35$$

2) Graph the system linear inequalities

$$y \geq x - 2$$

$$y < 1$$



3) Solve the system of linear equations

$$-3x + 4y = 0$$

$$-3(4) + 4y = 0$$

$$-12 + 4y = 0$$

$$+12 \quad +12$$

$$\frac{4y}{4} = \frac{12}{4}$$

$$y = 3$$

$$\begin{array}{r} 3(-3x + 4y = 0) \rightarrow -9x + 12y = 0 \\ 5x - 12y = -16 \rightarrow 5x - 12y = -16 \end{array}$$

$$-4y = -16$$

$$\frac{-4y}{-4} = \frac{-16}{-4}$$

$$x = 4$$

$$(4, 3)$$

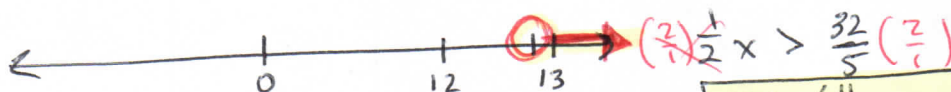
4) Solve and graph on a number line

$$\frac{1}{2}x - \frac{2}{5} > 6$$

$$+\frac{2}{5} \quad +\frac{2}{5}$$

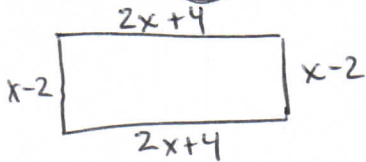
$$\frac{1}{2}x > 6 + \frac{2}{5}$$

$$\frac{1}{2}x > \frac{30}{5} + \frac{2}{5} = \frac{32}{5}$$



$$x > \frac{32}{5} \text{ or } x > 12\frac{4}{5} \text{ or } x > 12.8$$

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?



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

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

$$6x + 4 = 40$$

$$6x = 36$$

$$x = 6$$

length

$$2x + 4$$

$$2(6) + 4$$

$$12 + 4$$

width

$$x - 2$$

$$6 - 2$$

$$\text{length} = 16 \text{ feet}$$

$$\text{width} = 4 \text{ feet}$$

Bonus!! Solve the system

$$\begin{array}{r} 3x + y = 4 \rightarrow -4(3x + y = 4) \rightarrow -12x - 4y = -16 \\ 4y = -12x + 16 \rightarrow 12x + 4y = 16 \end{array}$$

$$+ \quad 12x + 4y = 16$$

$$0 = 0$$

Infinite solutions