

Quiz #3 (2.14 - 2.20) Rev

Algebra 1

Name: _____

A solve for x and y !!!

Lesson 15: Solving Systems by Elimination (Part 2)

Lesson 16: Solving Systems by Elimination (Part 3)

- I can solve systems of equations by multiplying each side of one or both equations by a factor, then adding or subtracting the equations to eliminate a variable.
- I understand that multiplying each side of an equation by a factor creates an equivalent equation whose graph and solutions are the same as that of the original Equation.

(DM: Elimination)

$$\begin{array}{r} \textcircled{1} \quad -5x + 7y = 40 \\ \quad -10x + 7y = 25 \\ \hline -15x = 15 \\ \quad -15 \quad \quad -15 \\ \hline \boxed{x = -1} \\ -5(-1) + 7y = 40 \\ 5 + 7y = 40 \\ 7y = 35 \\ \quad \quad \quad \downarrow \\ \quad \quad \quad \boxed{y = 5} \end{array}$$

$$\begin{array}{r} \textcircled{2} \quad -7x - 6y = -1 \quad (*2) \\ \quad 14x + 5y = 9 \\ \hline -14x - 12y = -2 \quad (+) \\ \hline 14x + 5(-1) = 9 \\ 14x - 5 = 9 \\ \quad \quad \quad +5 \quad +5 \\ \hline 14x = 14 \\ \quad \quad \quad \downarrow \\ \quad \quad \quad \boxed{x = 1} \\ -7y = 7 \\ \quad \quad \quad \downarrow \\ \quad \quad \quad \boxed{y = -1} \end{array}$$

$$\begin{array}{r} \textcircled{3} \quad 5x - 5y = 0 \\ \quad 4x - 6y = -18 \\ \hline \boxed{x = 9, y = 9} \end{array}$$

Lesson 17: Systems of Linear Equations and Their Solutions

- I can tell how many solutions a system has by graphing the equations or by analyzing the parts of the equations and considering how they affect the features of the graphs.
- I know the possibilities for the number of solutions a system of equations could have.

(DM: Number of solutions)

A Notes \rightarrow graphs solve? slopes

$$\begin{array}{r} \textcircled{4} \quad x + y = 6 \quad (*2) \\ \quad -2x - 2y = -12 \\ \hline 2x + 2y = 12 \\ \hline \boxed{0 = 0} \\ \text{(always true)} \\ \hline \boxed{\text{infinite \# of solutions}} \end{array}$$

$$\begin{array}{r} \textcircled{5} \quad 2x + y = 4 \quad (*2) \\ \quad 4x + 4y = 11 \\ \hline -4x - 2y = 8 \quad (+) \\ \hline 2y = 3 \\ \quad \quad \quad \downarrow \\ \quad \quad \quad y \text{ or } x \text{ left} \\ \hline \boxed{\text{one solution}} \end{array}$$

$$\begin{array}{r} \textcircled{6} \quad 3x + 4y = -4 \quad (*-5) \\ \quad 15x + 20y = -22 \\ \hline -15x - 20y = 20 \\ \hline 0 = -2 \\ \text{(never true)} \\ \hline \boxed{\text{no solution}} \end{array}$$


Lesson 18: Representing Situations with Inequalities

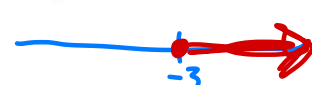
- I can write inequalities that represent the constraints in a situation.

Lesson 19: Solutions to Inequalities in One Variable

- I can graph the solution to an inequality in one variable.
- I can solve one-variable inequalities and interpret the solutions in terms of the situation.

(DM: Linear Inequalities)

$$\textcircled{7} -6x + 43 \geq 1$$
$$\begin{array}{r} -6x + 43 \geq 1 \\ -43 \quad -43 \\ \hline -6x \geq -42 \\ \text{Flip} \downarrow \\ x \leq 7 \end{array}$$


$$\textcircled{8} x - 4 \leq 2x - 1$$
$$\begin{array}{r} x - 4 \leq 2x - 1 \\ -x \quad -x \\ \hline -4 \leq x - 1 \\ +1 \quad +1 \\ \hline -3 \leq x \\ x \geq -3 \end{array}$$


$$\textcircled{9} -x + 5(4x - 4) < 10x - 10 - 2x$$
$$\begin{array}{r} -x + 5(4x - 4) < 10x - 10 - 2x \\ -x + 20x - 20 < 10x - 10 - 2x \\ 19x - 20 < 8x - 10 \\ -8x \quad -8x \\ \hline 11x - 20 < -10 \\ +20 \quad +20 \\ \hline 11x < 10 \\ \frac{11x}{11} < \frac{10}{11} \\ x < \frac{10}{11} \end{array}$$

Lesson 20: Writing and Solving Inequalities in One Variable

- I can analyze the structure of an inequality in one variable to help determine if the solution is greater or less than the solution to the related equation.
- I can write and solve inequalities to answer questions about a situation.

(DM: Write single inequality from context)

(DM: Write and solve inequalities in context)

~~⊛~~ Solve inequalities like equations

~~⊛~~ Warning alarm! → ~~*~~ or $\frac{\cdot}{-}$ by negative numbers

↳ Flip Sign

~~⊛~~ Double-check when finished