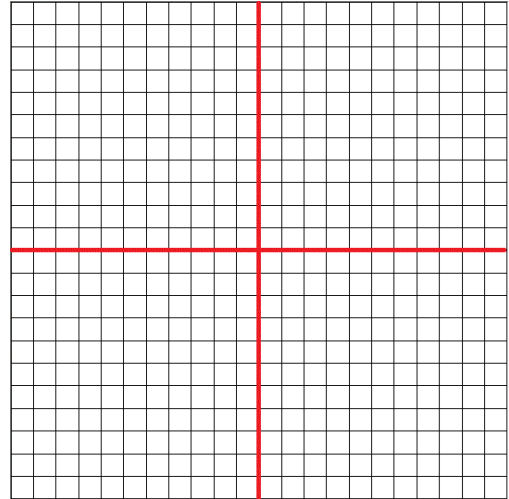


Name _____ **Answers!** Date _____ Period _____

DIRECTIONS: For #1, solve the system of equations using the GRAPHING METHOD. Use a straightedge (such as a ruler) to make straight lines. Write your answers in the provided blanks using ordered pairs or stating that there is no solution or infinitely many solutions. Show all work.

1. $y = 3x - 7$

$3x - 4y = -8$

(4, 5)

DIRECTIONS: For #2, solve the system of equations using the SUBSTITUTION METHOD. Write your answer in the provided blanks using ordered pairs or stating that there is no solution or infinitely many solutions. Show all work.

2. $x - 2y = -9$

(-3, 3)

$2x + 3y = 3$

DIRECTIONS: For #3, solve the system of equations using the LINEAR COMBINATION (DROPOUT) METHOD. Write your answer in the provided blanks using ordered pairs or stating that there is no solution or infinitely many solutions. Show all work.

$$3. \quad 3x - 4y = 34$$

$$(2, -7)$$

$$4x + 5y = -27$$

DIRECTIONS: For #4-5, solve the systems of equations using either the SUBSTITUTION or LINEAR COMBINATION (DROPOUT) METHODS. Write your answers in the provided blanks using ordered pairs/triples or stating that there is no solution or infinitely many solutions. Show all work.

$$4. \quad \frac{1}{x} - \frac{4}{y} = 16$$

$$\left(-\frac{1}{4}, -\frac{1}{5}\right)$$

$$-\frac{2}{x} + \frac{3}{y} = -7$$

$$\begin{aligned} 5. \quad x + y + z &= 6 && (-2, 5, 3) \\ -3x + y + 4z &= 23 \\ x - 3y + 5z &= -2 \end{aligned}$$

DIRECTIONS: For #6-7, solve the following word problems. Show all work! Remember to indicate what your variables represent. Write your answers on the provided blanks. Be sure to correctly label your answers.

6. The Pizza Palace sold exactly 90 pizzas on Friday – all of them were either medium or large (unlimited toppings!). The medium pizzas sold for \$11 each and the large pizzas sold for \$14 each. The total sales on Friday for the pizza were \$1149. How many medium pizzas and how many large pizzas were sold on Friday?

53 large pizzas and 37 medium pizzas

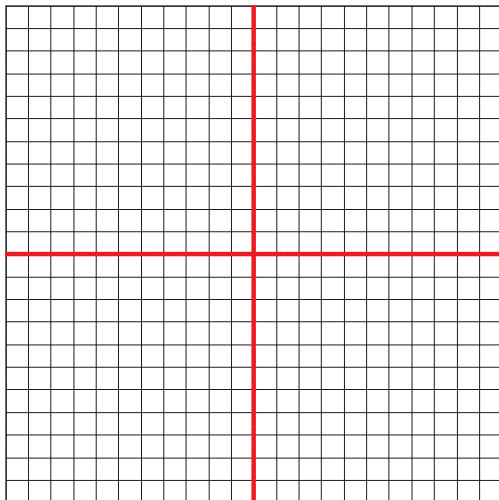
7. A plane took 5 hours to fly with a tail wind from Atlanta, GA, to Detroit, MI. The return trip of 600 miles against the same wind took 6 hours. What was the air speed of the plane and what was the speed of the wind?

Air speed of plane – 110 MPH

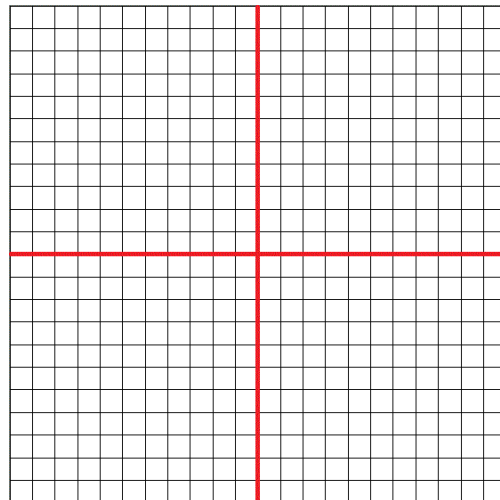
Speed of wind – 10 MPH

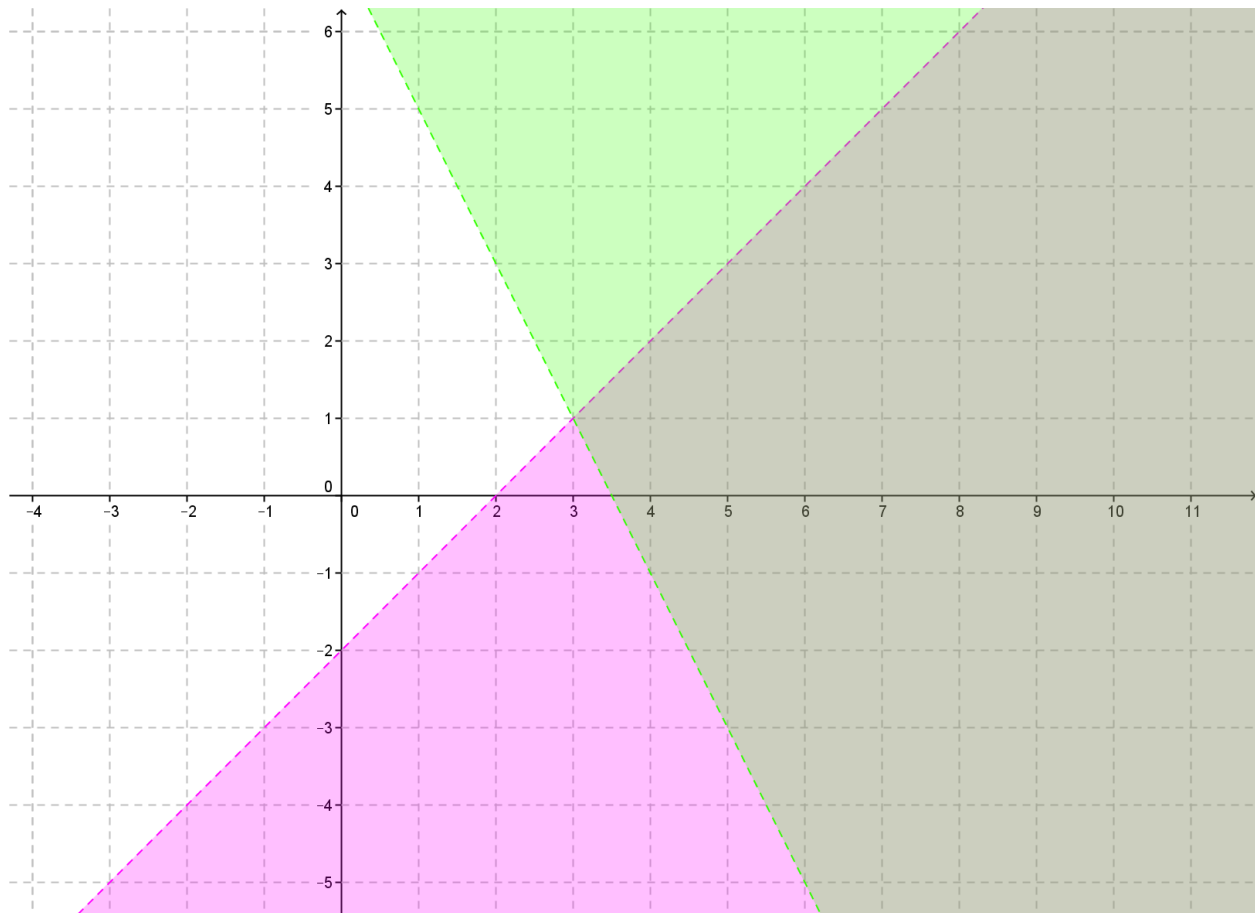
DIRECTIONS: For #8-9, graph the following systems of inequalities. Use colored pencils and a straightedge (such as a ruler) to make straight lines. Make certain that your final answer is shaded darker than the rest of your work. **See next pages for answers.**

8. $x - y > 2$
 $2x + y > 7$



9. $y + 3 \geq 0$
 $x + 1 \leq 0$
 $y \leq \frac{1}{3}x$



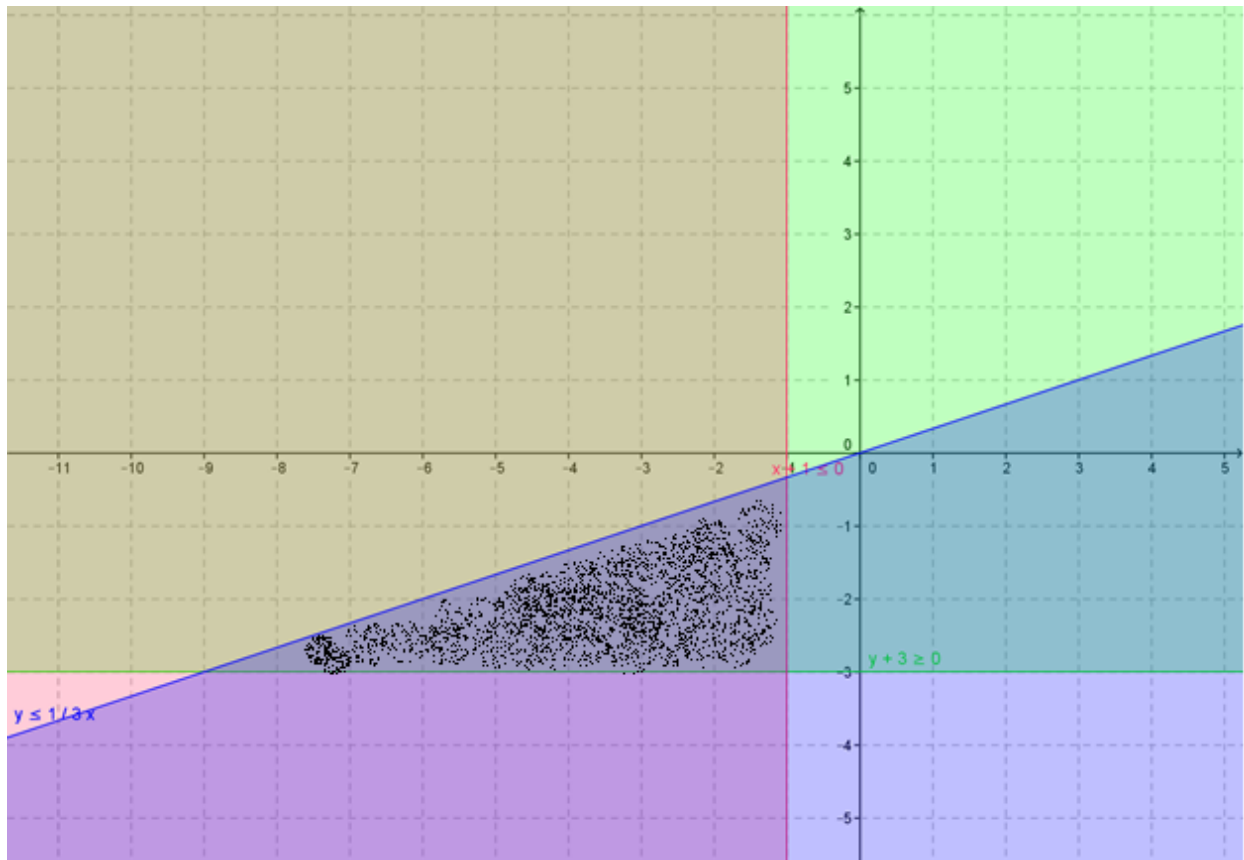


#8

The GREEN part is $x - y > 2$

The PINK part is $2x + y > 7$

The GRAY part is the final answer to the system!



#9

The GREEN part is $y + 3 \geq 0$

The PINK part is $x + 1 \leq 0$

The BLUE part is $y \leq \frac{1}{3}x$

(Other colors come from overlapping parts)

The BLACK part is the final answer to the system!