

3.1H Intro to Systems and Graphing

Name: _____ Per: _____

SHOW YOUR WORK FOR FULL CREDIT. NO WORK IN PEN

Fill in the blank

- If the lines intersect, there is _____ solution. What do you know about their slopes?
- If the lines are _____, there is no solution and their slopes will be _____.
- If the lines are the same, there are _____ number of solutions.

State how many solutions and how do you know (HDYK) the following set of equations

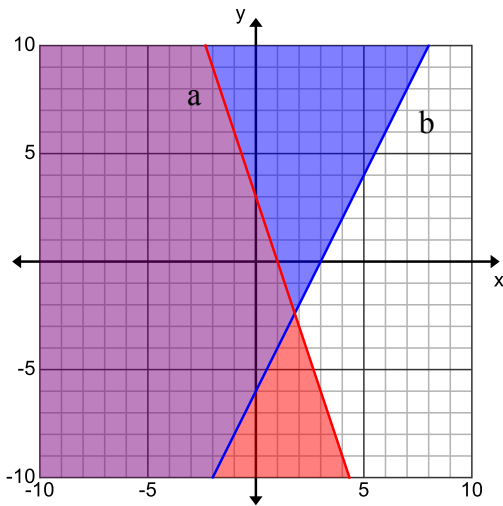
4. $y = -5(x + 7)$
 $\frac{10}{2}x + y = 1$

5. $2y - 18x = -10$
 $y = 9x - 5$

6. $y = -6x + 3$
 $y + 9 = 4x$

of solutions _____ # of solutions _____ # of solutions _____
 HDYK? _____ HDYK? _____ HDYK? _____

7. Use the following system of inequality (**two inequalities** on the same graph)



<p>a. Graph the inequality labeled a</p> <p>b. Write the inequality: _____</p>	<p>c. Graph the inequality labeled b</p> <p>d. Write the inequality: _____</p>

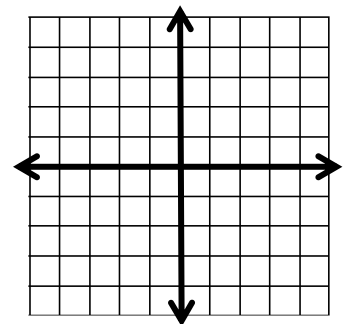
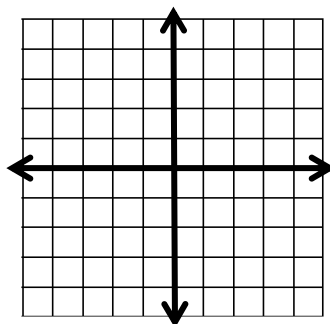
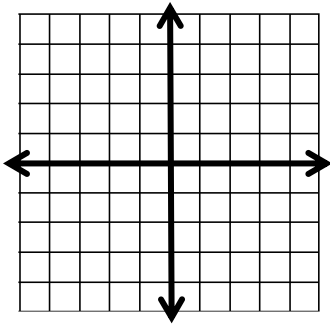
- Is the point $(1, -6)$, a solution to graph a? _____ Explain: _____
- Is the point $(1, -6)$, a solution to graph b? _____ Explain: _____
- Is the point $(1, -6)$, a solution to the graph given? _____ Explain: _____

Solve each system of equations/inequality by graphing.

8. $2x + 2y = 6$
 $y - \frac{3}{2}x + 2 = 0$

9. $4x + y < 2$ and $y > -2$

10. $y > -\frac{4}{3}x - 3$ & $y \geq \frac{2}{3}x + 3$



11. Gregory's Motorsports has ATVs (four wheels) and motorcycles (two wheels) in stock. The store has a total of 45 vehicles that have a total of 130 wheels.

a. Define your variables: A: _____ M: _____

b. Make a table showing the number of vehicles. # Wheels: _____

Vehicles: _____

A	M
0	
	0

c. Make another table showing the number of wheels.

d. Write 2 equations (a system) that represents the situation.

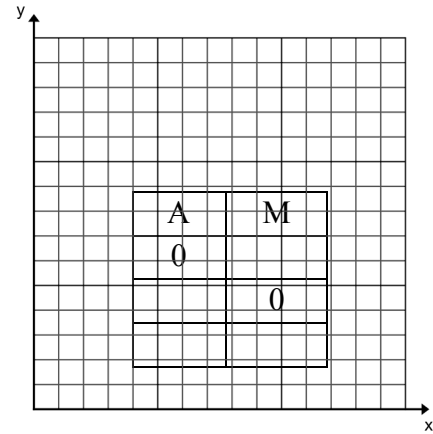
Equation about the number of vehicles: _____

Equation about the number of wheels: _____

e. Solve the system by graphing the equations. Estimate the solution by finding the point of intersection. Solution: _____.

f. What does your solution mean? _____

g. Check by **plugging** your solution into **both equations**:

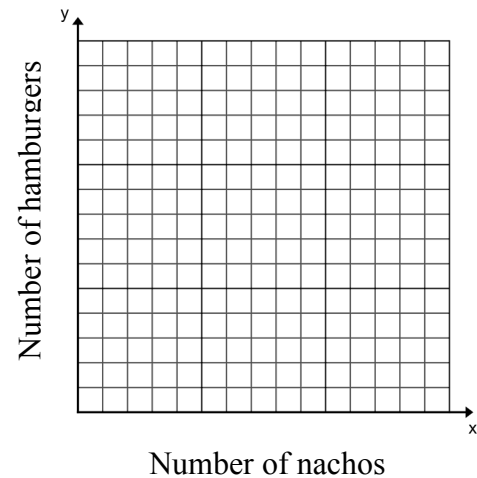


12. The Drama Club is selling nachos and hamburgers to raise money to go to St. George. They have no more than \$100 to spend on supplies. Nacho supplies cost \$0.50 for order of nachos. Hamburgers cost \$ 0.75 per hamburger. They will sell nachos for \$2 and hamburgers for \$5. They want to make at least \$500 for their trip.

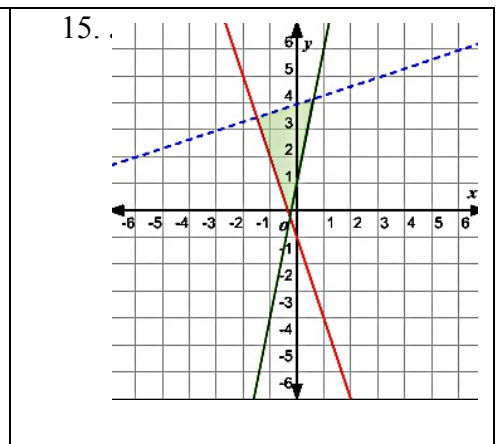
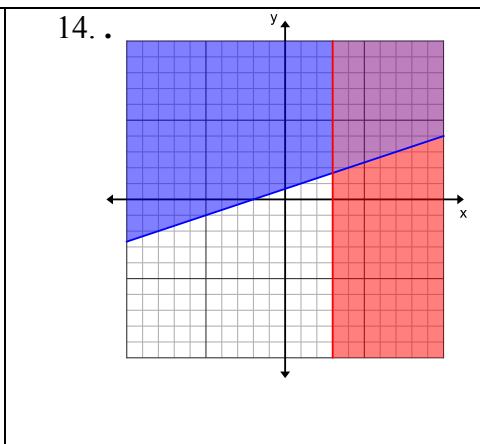
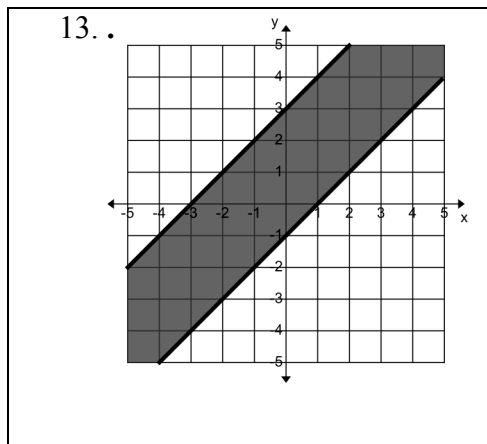
a. Write TWO inequalities to represent the situation.

Supplies: _____ Selling: _____

b. Graph the two inequalities to show all possibilities. HINT: Find the intercepts.



Write a system of inequalities for each graph that satisfies the following graphs.



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