4R Systems of Inequalities Graphing Review   Name: _____ Per: _____

SHOW YOUR WORK FOR FULL CREDIT. NO WORK IN PEN.

1. Use the following system of inequality (**two inequalities** on the same graph).
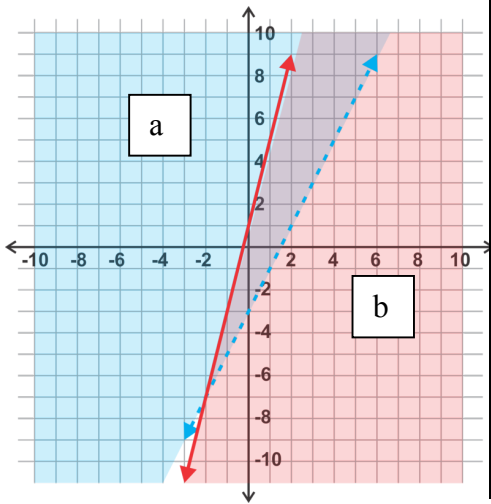
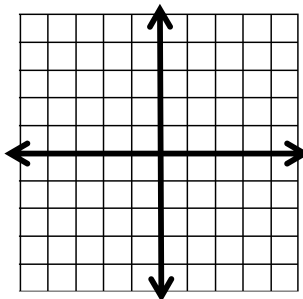|	a. Graph the inequality labeled **a** b. Write the inequality: _____	c. Graph the inequality labeled **b** d. Write the inequality: _____

e. Circle the area with no solutions.
f. Is the point $(2,4)$ a solution to inequality a? _____ Explain:_____
g. Is the point $((2,4)$ a solution to inequality b? _____ Explain: _____
h. Is the point $(2,4)$ a solution to the original graph? _____ Explain: _____
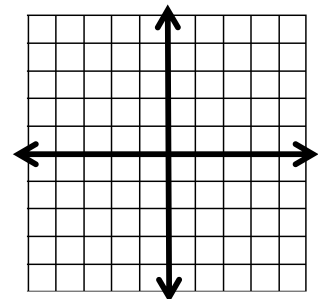
Graph each inequality.

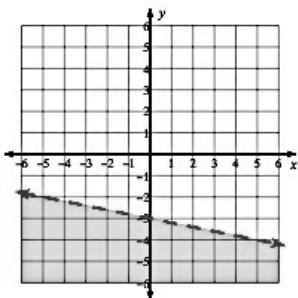2. $3x - 3y > 6$
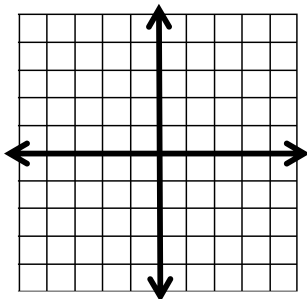
3. $2x + 4y < 2$
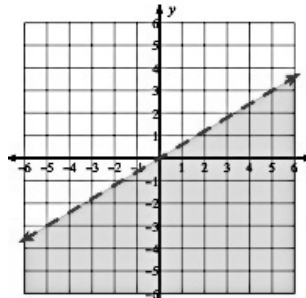
4. $y \geq -\frac{1}{5}x + 3$

Write the inequality for the following graphs. Then graph the inequality below the graph on the same grid.
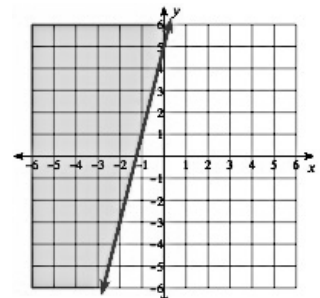
5. _____

6. _____

7. _____
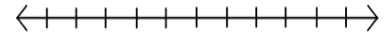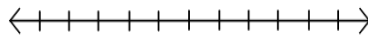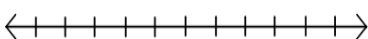
a. Graph $y > x - 1$

a. Graph $-2y + 6 < x$

a. Graph $2x - 4y \geq 8$

Solve and **graph** the following 1- Variable Inequalities.

8. $3m + 2(m - 1) \leq 4m + 5$

9. $-(y + 4) > 3 + 2y$

10. $12 < -2(k - 4)$

11. In the assignment 1A. Josh stops at Austin's house on his way to the gym. Austin's mother says that Austin left a couple of minutes ago. Josh leaves Austin's house, walking quickly to catch up with Austin. The equation for Austin was $D_A = 200m + 600$ and the equation for Josh was $D_J = 300m$.

    a. Change Austin's equation to show that he may have been walking slower. _____

    b. Change Josh's equation to show that he may have been walking faster.

    _____

    c. Graph both equations.

    d. How many minutes does it now take Josh to catch Austin? _____ Explain: _____

    e. Circle all the times and distances where they could meet.
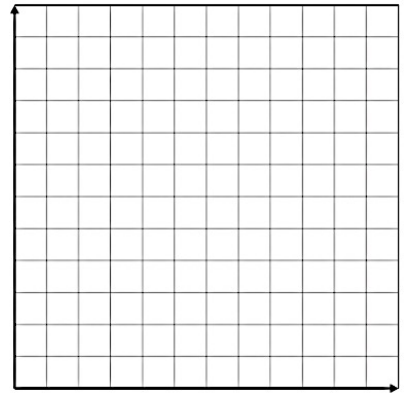
Solve for y. List the **slope, y-intercept and x-intercept. Graph #12**

12. $-4x - 2y + 7 > 1 - 3x$
13. $-2y \leq 3(x - 4) + y$
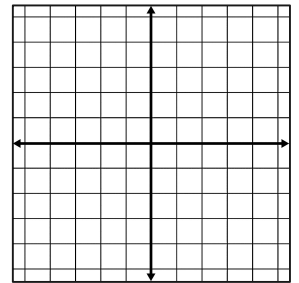
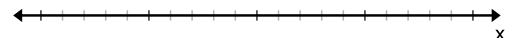Slope: _____ y-int: _____ x-int: _____
Slope: _____ y-int: _____ x-int: _____

14. Looking at #12 from above, answer the following questions.

    a. Is the point $(2, 2)$ part of your solution set? _____ Explain _____

    b. Is the point $(-2, 2)$ part of your solution set? _____ Explain _____

    c. Is the point $(-2, -2)$ part of your solution set? _____ Explain _____

Write, solve and graph Inequalities

15. The sum of a number and five *is fewer than* three times the number minus eight.

    x

16. Twice a number increased by seven *is more than* three times the number decreased by two.

    x
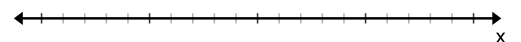
17. Shannon wants to sell bracelets for a fundraiser. She starts with $15 as a donation but she has to buy $20 in supplies. She expects to make at least $5.00 for each bracelet she sells.

    a. Define your variables:

    b. Write an inequality to show how much she can earn. _____

    c. She decides that she can make no more than 8 bracelets before the fundraiser starts. Write the inequality for this situation. _____

    d. Label the y-axis by $5 and the x-axis by 1.

    e. Graph the inequalities to show the amount of money she can earn.

    f. Circle the solution set.