

Test: Review

The test topics are bolded below. Under each topic is at least one example. To do well on the test, complete this test review, study your notes, study your past quizzes, and ask questions when you need help!

I. Equations

Create and solve 1 variable equations

1. Solve for x:

$$15x - 2 = 3x + 4$$

2. The Atlanta Hawks sold a total of 2021 tickets. The Hawks sold three more than twice as many as the Braves. How many tickets did the Braves sell?

Equation:

Solve:

Create and solve 2 variable equations

3. Solve for y:

$$5y - 10 = -20x$$

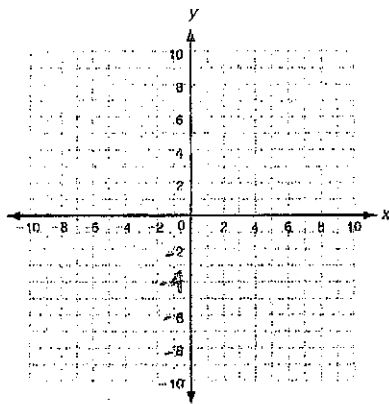
4. Solve for y:

$$2(y - x) = 14$$

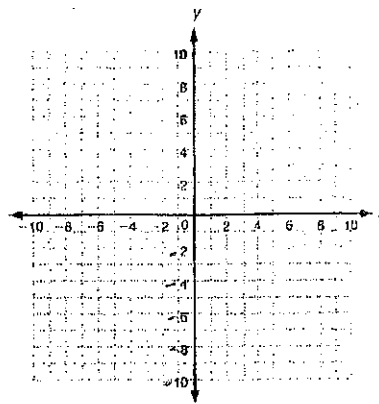
Graphing equations

**Remember that you must solve for "y" before graphing.

7. $y = \frac{1}{2}x - 3$



8. $2y = 8x + 4$

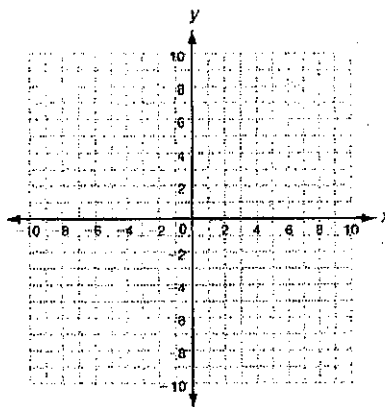


Systems of equations- graphing

** Remember that the solution to the entire system is the coordinate point where all lines intersect.

9a.

$$\begin{cases} y = x - 3 \\ y = -x + 5 \end{cases}$$



9b. What is the solution to this system?

Systems of equation- elimination

10.

$$\begin{cases} x - 2y = -7 \\ 4x + 2y = 22 \end{cases}$$

11.

$$\begin{cases} 2x + y = 10 \\ x + y = 2 \end{cases}$$

Systems of equations- word problems

12. The school that Stefan goes to is selling tickets to a choral performance. On the first day of ticket sales the school sold 3 senior citizen tickets and 1 child ticket for a total of \$38. The school took in \$52 on the second day by selling 3 senior citizen tickets and 2 child tickets. Find the price of a senior citizen ticket and the price of a child ticket.

Qualities

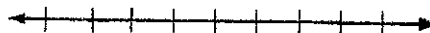
** Remember to change inequality sign when multiplying/dividing by a negative number OR when rewriting variable on left hand side.

Solving and graphing 1 variable inequalities

** Remember when to shade right vs. shade left AND when to have a defined point vs. undefined point.

13. $2y + 6 \leq (y + 7)$.

14. $-40 + 16 \leq 3m + 6$.

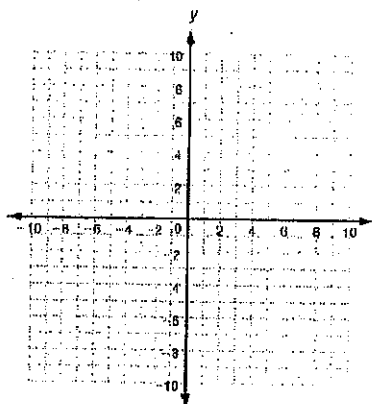
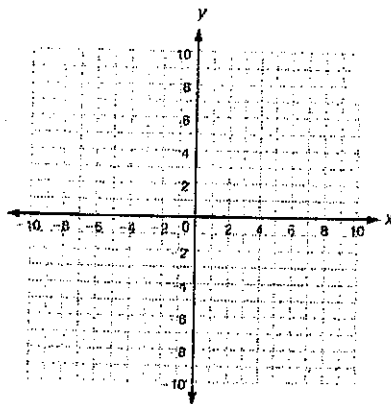


Solving and graphing 2 variable inequalities

** Remember when to use a solid vs. a dotted line AND when to shade above vs. shade below.

15. $y < 5x - 1$

16. $3y \geq -4x + 6$

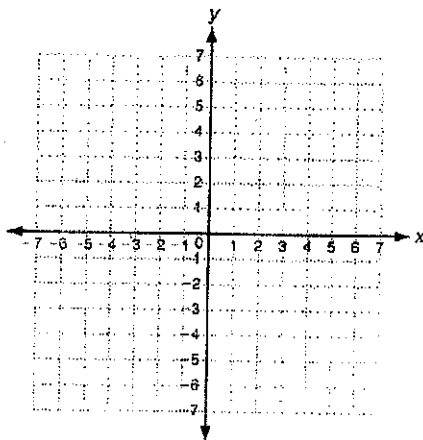


Systems of inequalities- graphing

** Remember the solution to the entire system is where the shadings of all inequalities are overlapped.

17a. Graph

$$\begin{cases} y \geq -\frac{1}{2}x - 4 \\ y \leq x + 1 \end{cases}$$

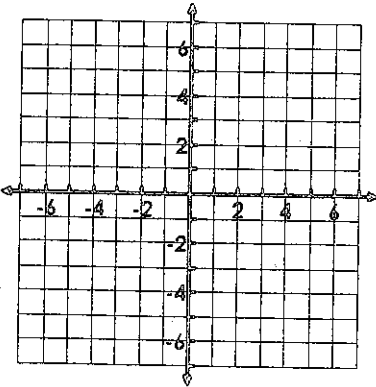
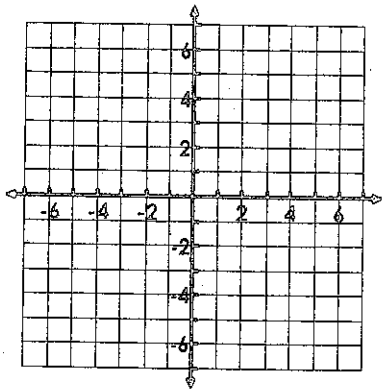


17b. Give two ordered pairs that are solutions and two ordered pairs that are not solutions.

Name: _____

Date: _____

Use the following to review for you test. Work the Practice Problems on a separate sheet of paper if needed.

What you need to know & be able to do	Things to remember	Problem	Problem
Identify and apply the properties of equality.	Study your property sheet! Papers: 2.1	1. Which property is illustrated by the following: $\frac{6}{5} \cdot \frac{5}{6} = 1$	2. What is an example of the distributive property?
Find the solution of a system of linear equations by <u>graphing</u> .	<ul style="list-style-type: none"> ◦ Get "y" by itself. ◦ Identify the slope (m) and the y-int (b) ◦ $y = mx + b$ ◦ Check your answer! 	3. $y = -x - 2$ $x + y = 3$ 	4. $y = x + 2$ $y = \frac{1}{4}x - 1$ 
Find the solution of a system of linear equations by <u>elimination</u> .	<ul style="list-style-type: none"> ◦ Decide which variable you want to get rid of. ◦ Make sure the coefficients are opposite ◦ Add the two equations. ◦ Solve for the variable. ◦ Substitute back into the original. ◦ Check your answer! 	5. $-2x - 8y = 6$ $2x + 6y = -6$	6. $12x - 8y = 12$ $6x - 7y = -12$

Solving a System of Linear Equations Word Problem

- Define x and y.
- Set up two equations.
- Decide the best method.
- Solve.
- End with words!

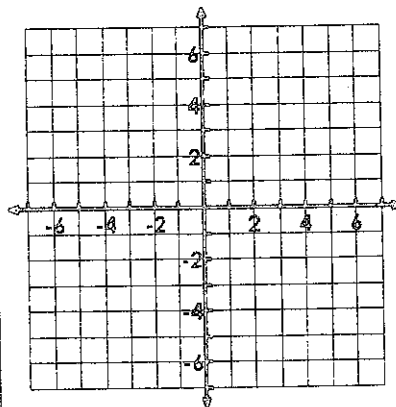
7. Amy's school is selling tickets to a choral performance. A senior citizen's ticket is \$6 and a child's ticket is \$15. If they made \$810 dollars and sold a total of 72 child and senior citizen tickets, how many of each ticket did they sell?

8. The band is selling wrapping paper for a fundraiser. Customers can buy rolls of plain wrapping paper and rolls of shiny wrapping paper. The band sold a total of 55 rolls and made \$950. If a roll of plain costs \$14 and a roll of shiny costs \$20, how many rolls of each did they sell?

Graphing a system of linear inequalities.

- Make sure both equations are in slope-intercept form.
- Decide if the lines will be solid or dashed.
- Graph the lines.
- Test a point-typically (0,0).
- Shade appropriately.

9. $y > -2x - 3$
 $y \leq \frac{1}{2}x + 2$



10. $y \leq x + 1$
 $y < -x - 3$

