

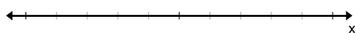
Name: _____ Date: _____ Period: _____

Sec 1 H Unit 1 Day 5 - Solve Inequalities Classwork

There are many answers to an inequality. Sometimes it is helpful to find all the solutions. The problems below will help you develop strategies for solving inequalities.

1. Write an inequality such as $3 < 8$. Make sure to pick your own numbers but don't use -1, 0, 1, or 2.
2. For each problem below **you are always going to use the inequality you wrote for # 1.** You need to perform the indicated operation and tell if the resulting inequality is true or false.
 - a. Add 15 to both sides of your inequality.
 - b. Subtract 25 from both sides of your inequality.
 - c. Multiply both sides of your inequality by 6.
 - d. Multiply both sides of your inequality by -8.
 - e. Divide both sides of your inequality by 3.
 - f. Divide both sides of your inequality by -10.
3. Why are some of the inequalities from problem 2 false? How would you make them become true inequalities?
4. How can you use your strategies for solving equations and the information from problem 3 to solve inequalities?
5. Since inequalities have more than one answer, we can make a graph to show all of the solutions. Graph the following inequalities on the number line provided.

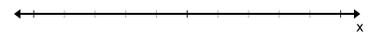
a. $x < 7$



b. $-2 > x$

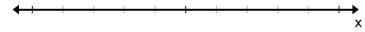


c. $x \leq 5$

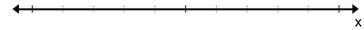


Solve the following inequalities and graph the solution.

6. $4 - 3x + 5 < 2x - 1$



7. $14 - 3x \geq 5x + 13$



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



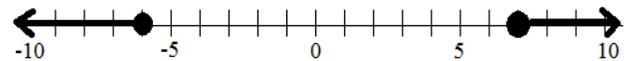
9. Write out in words what this compound inequality means: $-3 < x \leq 10$

10. Write the inequality represented by this graph:

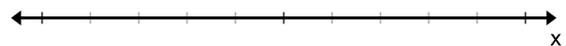


11. Write out in words what this compound inequality means: $x < -2$ or $x \geq 5$

12. Write the inequality represented by this graph:



13. Graph this compound inequality: $-1 \leq x < 4$



14. Graph this compound inequality: $x \leq -1$ or $x > 4$

