

## Math 7H - Unit 2c

## Day 7 - Solving Multi-Step Inequalities

## Lesson Objectives:

- I can solve multi-step inequalities.
- I know how to show work when solving inequalities.

Steps for Solving Equations/Inequalities

Step #0 Simplify each side of the equation.

Step #1 Get rid of the constant

Step #2 Get rid of the coefficient

\*\*Keep the inequality symbol the same unless multiplying or dividing both sides of the inequality by a NEGATIVE number.

Solve each inequality. Don't forget to show work, give properties as reasons, and graph your solution on a number line.

1.  $y - 4y + 1 < 4$

$$\begin{array}{r} y - 4y + 1 < 4 \\ -3y + 1 < 4 \\ -3y < 3 \\ y > -1 \end{array}$$

Subtraction prop. (a)  
Substitution prop. (a)  
division prop. (a)

2.  $-1 < 2 + 2c + 3$

$$\begin{array}{r} -1 < 2 + 2c + 3 \\ -1 < 5 + 2c \\ -6 < 2c \\ -3 < c \end{array}$$

Subtraction prop. (a)  
Substitution prop. (a)  
division prop. (a)

Solve each inequality. Don't forget to show work, give properties as reasons, and graph your solution on a number line.

3.  $-3(b - 1) > 18$

$$\begin{array}{r} -3(b - 1) > 18 \\ -3b + 3 > 18 \\ -3b > 15 \\ b < -5 \end{array}$$

Distrib. prop. (a)  
Substitution prop. (a)

4.  $\frac{1}{2}(6 - c) > 5$

$$\begin{array}{r} \frac{1}{2}(6 - c) > 5 \\ 3 - \frac{1}{2}c > 5 \\ -\frac{1}{2}c > 2 \\ c < -4 \end{array}$$

Distrib. prop. (a)  
Substitution prop. (a)  
division prop. (a)

The revenue from your lemonade stand can be found by using the expression  $2(g - 10) + 50$  where  $g$  is the glasses of lemonade you sell. The cost to keep the stand running is \$236. How many whole cups of lemonade do you have to sell to make a profit?

Homework

## Multi-Step Inequalities WKS

\* Individual Think Time \*

What to do if you get stuck...

1. Reread the problem. Did you write it down correctly?
2. Reread your notes. Is there a problem similar that we did together in class?
3. Find a problem similar in your book. Try this one to see if it helps.
4. Skip the problem until the end of Individual Think Time. Then ask an "educated" question of a neighbor or Mrs. Call.

Today we're working by...

