

Algebra 1
Unit 3, lesson 1 notes

Name _____ Block _____ Date _____

Essential Question:

Inequality Signs:

Sign	Words	open or closed circle?	Picture (graph)

Examples:

1. Graph the inequalities:

a. $x > -2$

b. $x \geq 3$

c. $x < 5$

d. $x \leq 4$



2. Write the inequality for each graph



To solve inequalities: The steps are the same as _____,
except for one BIG difference:



Examples: Solve the inequalities. Graph your answer on a number line.

1) $x + 4 > -2$

2) $x - 6 < 3$

3) $x + 5 \leq 1$

4) $-2x \leq 6$

5) $9x \geq 27$

6) $\frac{x}{-2} \geq 2$

Now try these (you need to do 2 steps to get the answer!)

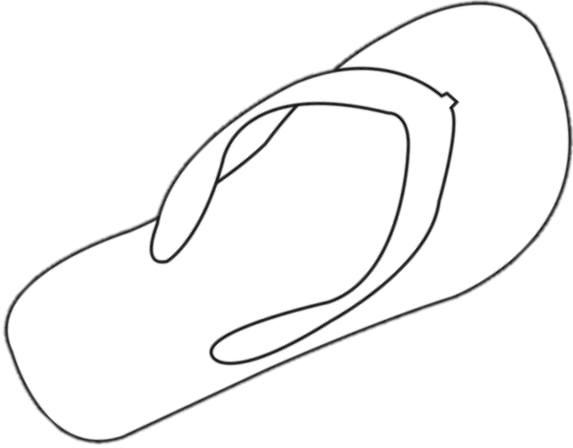
7) $2x - 4 > 2$

8) $\frac{x}{-4} + 8 < 5$

9) $30 < 4x - 6$

VARIABLE	SYMBOL	CONSTANT
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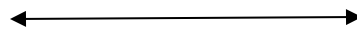
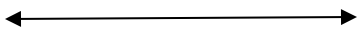
***Look at your answer in #9... this leads to another flip flop!



Examples: Try “flipping” these answers so they read: Variable, Symbol, Constant, then graph them on a number line.

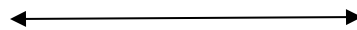
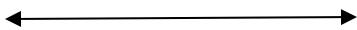
1) $-4 < x$

3) $-3 \geq x$



2) $20 > x$

4) $7 \leq x$



Putting it all together: Solve the inequality and graph your answer on a number line.

1) $8 < 3x - 7$

2) $12 - 2x \leq 6$

3) $54 < 4x + 6$

4) $25 > 4x + 9$

5) $1 - 3x \geq -14$

6) $-\frac{1}{3}(x + 21) < 2$

7) $5(-3x - 4) < 5$

8) $-\frac{1}{2}(-4x + 10) \geq -1$

9) You have a budget of \$45 to buy pizza for a student council meeting. Pizzas cost \$7.50 each. Write and solve an inequality to find the possible numbers of pizzas that you can buy.

10) You have \$50 to spend at a county fair. You spend \$20 on admission. You want to play a game that costs \$1.50. Describe the possible number of times you can play the game.