Unit 6: Inequalities Name: _____

Lesson 1: Solving One-Step Inequalities with Addition & Subtraction Hour: 3rd

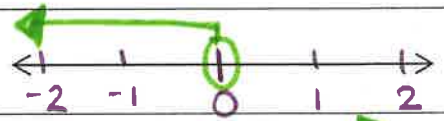
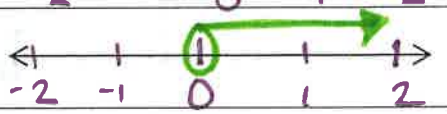
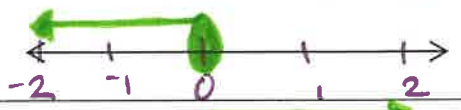
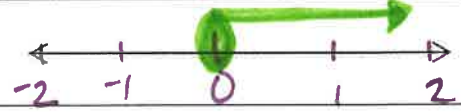
N s 6.1

Inequalities

Inequality: "Not equal" $<$ $>$ $\leq$ $\geq$

Solution to an Inequality: Any numbers that make it a true statement.

HINT: Replace the variable with the words "what numbers"

Symbol	Meaning	Solution
$x < 0$	Less than	
$x > 0$	Greater than	
$x \leq 0$	Less than or equal to.	
$x \geq 0$	Greater than or equal to.	

Pick the symbol that would be used to represent the following situations:

1. You can save up to $12 on dog food this week.
   (not more than $12) $x \leq 12$
2. You must be at least 42 inches to ride the carnival ride.
   (the smallest is 42in) $x \geq 42$
3. The minimum speed limit on the freeway is 55 miles per hour (mph).
   (55 is the slowest) $x \geq 55$
4. There is a limit of 800 pounds on the rowboat.
   (800 is the maximum) $x \leq 800$
5. The maximum number of people allowed in the restaurant is 240.
   (240 is the most people) $x \leq 240$

Order Matters!

If you have to "flip-flop" the side of the inequality, you must "flip flop" the inequality symbol as well.

$n < -12$ *is the same as* $-12 > n$

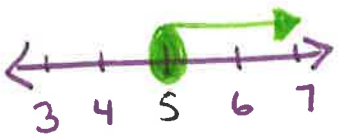
Solving an Inequality and Graphing the Solution

Solve the inequality and graph the solution:

1. $m + 5 \geq 10$

$-5 \quad -5$

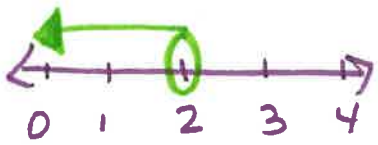
$m \geq 5$



2. $-10 > x - 12$

$+12 \quad +12$

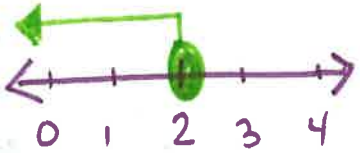
$2 > x$



3. $x - 6 \leq -4$

$+6 \quad +6$

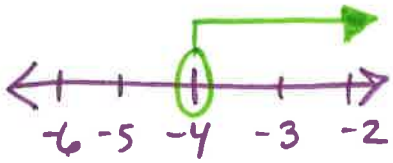
$x \leq 2$



4. $-8 < -4 + x$

$+4 \quad +4$

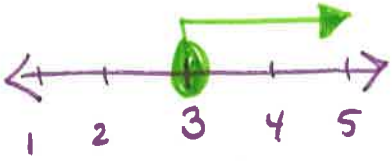
$-4 < x$



5. $-6 \leq x - 9$

$+9 \quad +9$

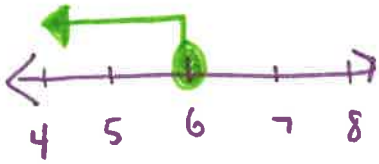
$3 \leq x$



6. $10 \geq y + 4$

$-4 \quad -4$

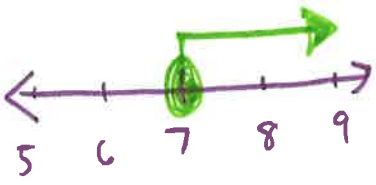
$6 \geq y$



7. $5 + m \geq 12$

$-5 \quad -5$

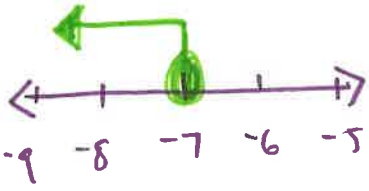
$m \geq 7$



8. $v + 4 \leq -3$

$-4 \quad -4$

$v \leq -7$



Homework: p. 140 #7-10 (all), 12-20 (evens)

Adapted: