4-1 Solving Inequalities and Their Graphs

All of the equations we have solved so far have only had ONE solution. A solution to an inequality is ANY number that makes the inequality true.

List three numbers that would be a solution to the inequalities below.

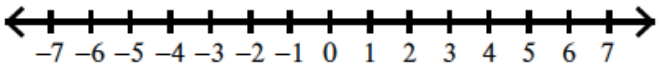
$x > 4$	$x < -3$	$x \geq -6$	$x \leq 2$

Key Words	**Key Words**	**Key Words**	**Key Words**
Greater Than More Than Larger Than Exceeds	Less Than Smaller Than Below	Greater Than or Equal To At Least No Less Than	Less Than or Equal To At Most No More Than

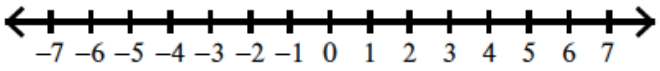
Graphing Inequalities

○ → ● →

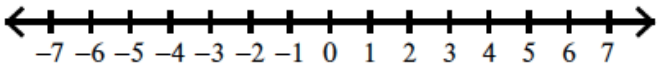
1. $x > 4$



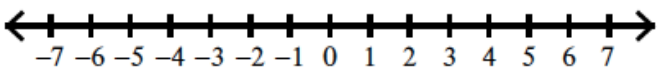
2. $x < -3$



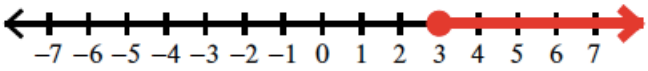
3. $x \geq -6$



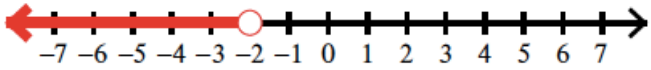
4. $x \leq 2$



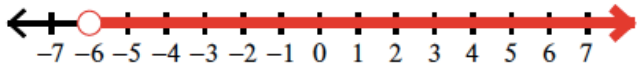
5. _____



6. _____



7. _____



8. _____

Solve if Necessary and Graph the Following Inequalities

1. The temperature in a refrigerated truck must be kept at or above 38° F.

2. At least 20 students were sick with the flu.

3. $4x - 2 \leq 10$

4. $\frac{x}{9} > 2$

5. $12 + 5x - 3 < 29$

6. $-5 \leq 2x - 13$

7. Is each number a solution to the inequality?
   $2x - 8 \geq 1$

   a. 5 →

   b. 0 →

   c. 2 →

   d. 4 →

Classwork/Homework
Solve if Necessary and Graph the Following Inequalities

1. Every class has at most 20 students.

2. To be safe, you should use a light bulb of no more than 60 watts in this light fixture.

3. $3x + 8 \geq -4$

4. $\frac{x}{3} > 3$

6. $5(3x - 2) < 50$

6. $8 \geq -12 + 5x$

1. Is each number a solution to the inequality?
$48 + 2x \leq 36$

a. -10 →

b. -5 →

c. -6 →

d. 2 →