Inequalities

We use the symbol $=$ to represent **equality**.

To express **inequalities**, we have the following symbols:

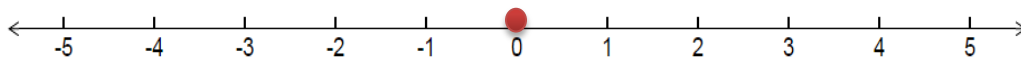|	
$>$	**greater than**
$<$	**less than**
$\geq$	**greater than or equal to**
$\leq$	**less than or equal to**
$\neq$	**not equal to**

Example 1:

True or False?

$$a)\, -3 < -4$$

The symbol $<$ means **less than**. Looking at the number line, $<$ means **"to the left of"**

so, $-3 < -4$ means -3 is **to the left of** -4 on the number line.

Therefore, this statement is **false**.

b) Consider $x > 4$

This means x greater than and is to the right of 4 on the number line.

Can x be 5?

Can x be 3?

Can x be 4?

Example 2:

True or False?

$$85 \geq 2[3 + 5(6 + 2)]$$
$$\geq 2[3 + 5(\underline{\quad})]$$
$$\geq 2[3 + \underline{\qquad}]$$
$$2(\qquad)$$

Answer:_____

NOTE: For example 2, we must follow the Order of Operations.

Inequalities

1. True or False?

     a) $5 > 7$

     b) $9 > 11$

     c) $-4 > -5$

     d) $-11 > -10$

2. True or False?

$$6[2^3 - 7] + 15 \geq 21$$