

Grade 7/8 Math **Introduction to Inequalities**

Name: _____ Class: _____ Date: _____

Inequalities are much like equalities, but inequalities use the greater than (>) and lesser than (<) signs.

Inequality Symbols :

> Greater Than

≥ Greater Than or Equal To (The line underneath the Greater Than sign indicates also Equal To.)

< Less Than

≤ Less Than or Equal To (The line underneath the Less Than sign indicates also Equal To.)

What this means is that we are looking at a series of numbers that 'solves' the inequality.

If we need greater than \$400 to get a new cell phone, and you make \$15 dollars an hour, you can find out how many hours you need by the following formula:

$$\$15h > \$400$$

Solving this will tell you how many hours you will have to work.

If we already have \$150, we use the formula:

$$\$15h + \$150 > \$400$$

Solving this will tell you how many hours you will have to work.

In order to check that you have done it correctly, substitute a number to see if it is still true.

Symbols for Inequalities

$<$ Less than

$>$ Greater than

$\leq$ Less than or Equal

$\geq$ Greater than or Equal

$=$ Equal to

$\neq$ Not equal to

$\approx$ Approximately equal to (used when rounding)

$\sim$ Approximately

Tip for solving inequalities:

Whenever you divide or multiply by a negative number, you have to switch the direction of the inequality.

$$-5x < 35 \quad \text{becomes} \quad x > -7$$

(because you divide both sides by -5)