5.5 Inequalities

You can use an inequality to show that two mathematical expressions are not equal. The chart shows various symbols you can use to write an inequality statement.

Inequality Symbols	
$\neq$	not equal
$<$	less than
$\leq$	less than or equal to
$>$	greater than
$\geq$	greater than or equal to

Example: Translate the number sentence into a word sentence.

1.) $x > 1$

X is greater than 1.

2.) $x \leq 54$

x is less than or equal to 54.

3.) $x \geq \frac{3}{4}$

x is greater than or equal to 3/4

4.) $2x < 4$

2 times x is less than 4.

5.) $x - 3 > 12$

x minus 3 is greater than 12.

6.) $7b \geq 8$

the product of 7 & b is greater than or equal to 8.

7.) $n + 20 < 40$

n plus 20 is less than 40

8.) $12g > 88$

12 multiplied by g is greater than 88.

9.) $h + 8 > 8$

h added to 8 is greater than 8

Example: Translate the word sentence into a number sentence.

10.) The sum of twenty-three and fourteen is greater than thirty-six.

$$23 + 14 > 36$$

11.) Four times five is less than twenty-four.

$$4 \cdot 5 < 24$$

12.) Seventy-one times two is equal to one hundred forty-two.

$$71 \cdot 2 = 142$$

Example: Translate the word sentence into a number sentence.

13.) A number x is less than two-thirds.

$$x < \frac{2}{3}$$

14.) Six is not equal to a number. Let x represent the number.

$$6 \neq x$$

15.) Twenty-eight is less than or equal to a number.

$$28 \leq n$$