Math
Monday 3/20/2017

The last thing that we need to study in this unit is Inequalities.

Reason about and solve one-variable equations and inequalities.

5. Understand solving an equation or inequality as a process of answering a question: which values from a specified set, if any, make the equation or inequality true? Use substitution to determine whether a given number in a specified set makes an equation or inequality true.

6. Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.

7. Solve real-world and mathematical problems by writing and solving equations of the form x + p = q and px = q for cases in which p, q and x are all nonnegative rational numbers. 8. Write an inequality of the form x > c or x

Writing Inequalities

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An inequality is used when we don't know exactly what an expression is equal to. Instead of an equal sign, we use one of these symbols:

A number less 5 is greater than 7.

[redacted]

The distance to Philadelphia is less than 100 miles.

[redacted]

The sum of 3 and a number is less than or equal to -9.

[redacted]

A number plus 3 is greater than or equal to 12.

[redacted]

It takes practice to translate a word problem into an inequality, just as it does to translate a problem into an equation. Let's practice now.

Example 1.

A number minus 4 is greater than 2.
The words "a number" tell us that we need a variable in our inequality, and that the result of the variable less "4" is more than 2.

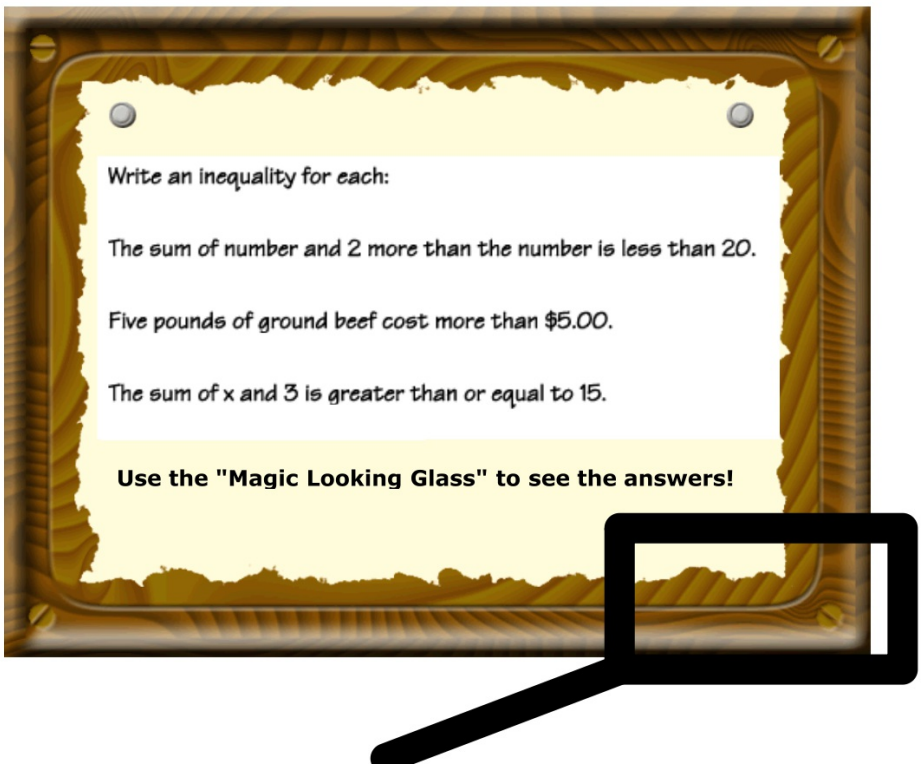
Let's try another one!

Example 2

The sum of x and 5 is less than or equal to -2.

The words "the sum of" give us a clue that our inequality will involve addition.

We can write the inequality like this:


Write an inequality for each:
The sum of number and 2 more than the number is less than 20.
Five pounds of ground beef cost more than $5.00.
The sum of x and 3 is greater than or equal to 15.
Use the "Magic Looking Glass" to see the answers!

Match the Inequality with its Description

The sum of a number and five more than the number is less than fifteen.

The sum of a number and nine is less than thirty.

A number less negative seven is less than or equal to five.

A number times five is greater than fifteen.

Twice a number is less than twenty.

The difference between a number and seven is less than zero.

The sum of a number and seven is greater than or equal to fifteen.

$n > 15$

$n + (n + 5) < 15$

$n + 7 \geq 15$

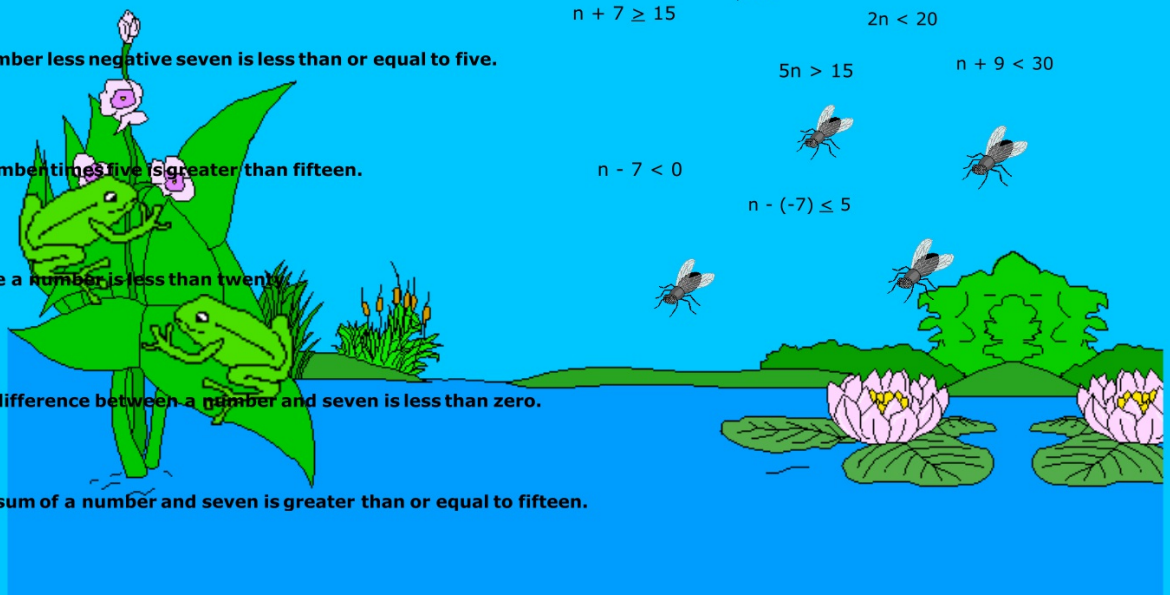
$2n < 20$

$5n > 15$

$n + 9 < 30$

$n - 7 < 0$

$n - (-7) \leq 5$



Math
Tuesday 3/21/2017

Yesterday,

You learned how to write inequalities. Today we are going to look at how to solve them.

Remember how we solved equations?

$3x = 15$

$x - 2 = 10$

When I first told you about
Algebraic Expressions
Equations
and Inequalities...

I told you that there was a really
important difference between
Equations and inequalities.

Take a look at this example.

$$x - 2 = 10$$
$$+2 \qquad +2$$
$$X = 12$$

This says that x=12. So can X be anything else?

NO!

When we solve inequalities, instead of the equal sign, it is going to say X is greater than, less than, greater than or equal to, or less than or equal to a value.

What does this mean?

This means that instead of ONE answer,

we are going to have A SET of answers.

lets practice

$$x + 2 < 5$$

Lets focus on solving for now, and we will practice the next step tomorrow.

Math
Wednesday 3/22/2017

The next step in working with inequalities is graphing.

usually when you find the answer for the inequality, you have to show the range that the answer covers.

There are a couple of rules about this.

Rule 1: [redacted]

Rule 2: [redacted]

Rule 3: [redacted]

Rule 4: [redacted]

Rule 5: When solving the inequality, if you multiply or divide by a negative number, you have to flip the inequality sign.

Math
Thursday 3/23/2017

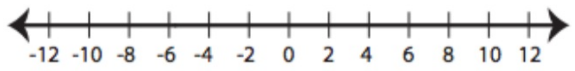
Today we will continue to practice what we started this week

Name : _____ Score : _____

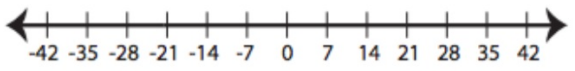
Solving & Graphing Inequalities

Solve each inequality and graph the solution.

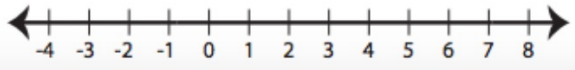
1) $x - 2 > 4$



2) $\frac{x}{3} \leq 7$

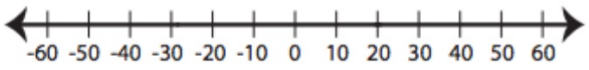


3) $6x < 30$

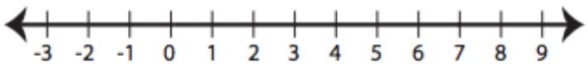


4) $x + 9 \geq 11$

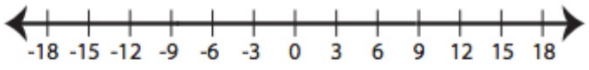
5) $\frac{x}{2} \geq 10$



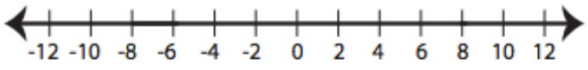
6) $x - 5 \leq 2$



7) $7 + x < 16$



8) $4x \geq 32$



Math
Friday 3/24/2017

Today, you'll have time to practice what you have learned this week.