Mathematical Language

Talking about numbers and variables with Manglish\*

Let’s look at a math inequality in English.

“The difference of 3 and a number is greater than the sum of 1 and that same number”.

We can say that much more quickly: 

So it’s quicker and shorter to write in Manglish than English BUT there is some time that a student has to put in to learn what the symbols mean.

So let’s take that apart.

The difference of 3 and a number: . Notice that the difference of a number and 3 is not the same phrase (). This is because subtraction does not commute; which is to say that the first number mentioned has to be the first symbol in the phrase. The first number, to the left of the minus sign, is called the minuend and the second, on the right of the minus sign, is called the subtrahend. Which is which really matters!

There are a couple of ways to say “subtract”…you could just use that exact word. You may also say “the difference” or “reduced by.

One other thing to notice, “a number” is an unknown, a variable. So we use “*x*” as a place holder for the number. There are many letters commonly used for an unspecified or unknown number.

What about the comparative: is greater than? We use “>” and note that the symbol points toward the smaller number. We have “is less than”, “greater than or equal to” and “less than or equal to”. ( ).

The sum of one and that same number: . Note that the unknown number is specifically stated to be the same one so we’re safe reusing “*x*”. Could we have said “”? Yes!

Addition is commutative. Both terms are called “summands” interchangeably. It’s like the word “spouse”…could be either one of a married couple. There are several words for adding: increase and sum are two of them.

Our discussion wouldn’t be complete without talking about multiplication and division. Multiplication does commute and the numbers or phrases to be multiplied are called factors. Division does not commute. In a ratio format, the phrase on top of the fraction bar is the numerator and the one on the bottom is called the denominator.

The product of 4 and 6 is 24: 4(6) = 24.

(“multiplied by” and “times” are also used). You may use a small dot or an x inbetween the two factors as well. Each of 4 and 6 is a factor.

The quotient of 5 and 3 is not the same as the quotient of 3 and 5:

 .

In the first ratio, 5 is the numerator and in the second, it is the denominator.

\*An artist in Math 2303, Mary Droz, many years ago coined this word. It’s the contraction of Math and English. Like Franglais or Spanglish.

Examples:

Translate:

The number that results when 5 is reduced by a number.

The resultant from subtracting a number from 11

The difference of 5 and 3

7 increased by 3

The sum of 5 and 3

The quotient of 1.1 and 2.5

Fill in the blank with a comparative:

   

Note: These problems illustrate the importance of getting the order correct with subtraction.

The quotient of 5 and 6 \_\_\_\_\_\_\_\_the quotient of 6 and 5.



Vocabulary:

Given:  which is the denominator and which is the numerator? Now solve it.

(0.1)(20)(4) = *x*. Solve for *x*. List the factors.