**Terms and Factors**

**Terms**

A term is any amount of numbers and/or unknowns that are grouped together by multiplication and/or division.

For example:

is considered 1 term because .

is considered 1 term because

Terms are separated by addition and subtraction.

For example:

is considered as 2 terms as we cannot add 2 unknowns together.

Similarly is also considered as 2 separate terms.

However joining terms by multiplication and division can happen in many different ways.

All of the following examples are considered to be 1 term.

Both the and must be multiplied by 2 so the brackets join the terms.

both the and must be divided by 2 so the division line again joins the terms.

Let’s look at a more complicated example

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How many terms do you think there are. Using green to show where they are joined and red to show separation:

It is now easy to see that there are in fact 3 terms.

Summary

Terms are joined by multiplication and division and separated by addition and subtraction.

Joining happens before separation.

To clearly see how many terms there are just look for + and – signs that do not lie inside brackets or above or beneath a division line. Highlight those signs and count the terms in-between them.

**Factors**

Factors can be thought of as the “small parts” (unknowns and numbers that make up terms).

1 is a factor, is a factor.

Some more examples:

has 2 factors and

has 2 factors and

has 3 factors 2, and

has 3 factors 2, and

has 6 factors 2, ,,, and .

Factors are also numbers that can be divided into another number for example the factors of6 are 1, 2, 3 and 6.

Because:

The factors of 15 are 1, 3, 5 and 15

Because:

Some numbers have many factors such as 100

Can you work out all the factors of 100?

Let’s begin with the easiest 2, any number is always divisible by itself and 1. Do you agree?

So two factors of 100 are 100 and 1.

100 is also an even number so it must be divisible by 2.

Therefore 2 is also a factor.

What do we get when we divide 100 by 2?

50 of course!

Therefore 50 is also a factor.

Working up the number line we can ask ourselves is 3 a factor? No,

If we get a fraction or a decimal as an answer then it is **not a factor.**

Is 4 a factor? Yes as

Therefore 4 and 25 are both factors of 100.

Doing the same with 5 we find that 5 and 20 are also factors.

As well as 10 because

Therefore all the factors of 100 are 1,2,4,5,10,20,25 and 50.