# Maths Vocabulary – The four operations

Unsure of what that word means in your homework? Well you may find it here!

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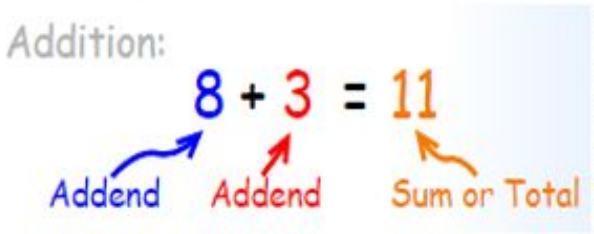
# Add

Finding the total, or sum, by combining two or more numbers.

Example: 5 + 11 + 3 = 19 is an addition

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# Addition

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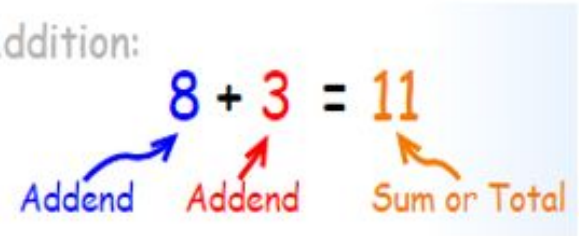


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# Arithmetic

The basic calculations we make in everyday life: addition, subtraction, multiplication and division.

The subject also includes fractions and percentages (related to division), and exponents (related to multiplication).

$5.5 - 3.4 = 2.1$

$15 / 3 = 5$

$2 + 15 = 17$

$3 \times (4+2) = 18$

25% of 12 is 3

$\sqrt{9} = 3$

$\frac{3}{4} \times 16 = 12$

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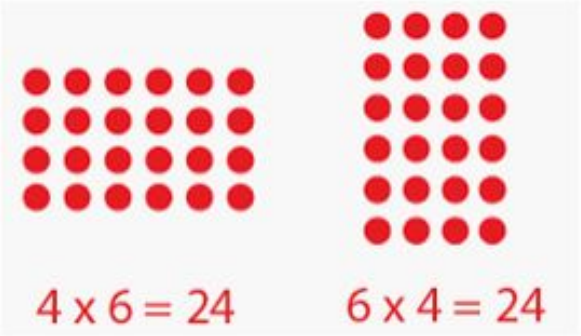
# Array

Items (such as objects, numbers, etc.) arranged in rows and/or columns.

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# Balance

When both sides have the same quantity or mass.

Here "x" is balanced by 4 "1"s, so x must be 4


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# Brackets

Symbols used in pairs to group things together.

Example: (3 + 2) x (6 – 4) = 5 x 2 = 10

The parentheses group 3 and 2 together, and 6 and 4 together

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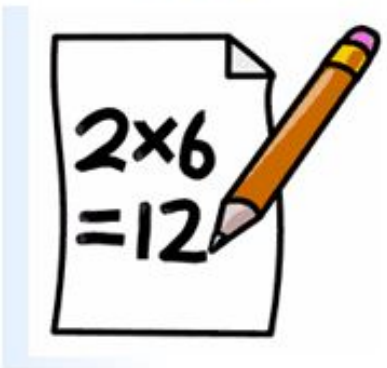
# Calculate

To work out an answer, usually by adding, multiplying etc.

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# Column

An arrangement of figures, one above the other.

This is a column of numbers:

12
25
17
92
14

$9 \times 10 = 90$

| ...dreds | Tens | Units | $\frac{1}{10}$ | $\frac{1}{100}$ |
|---|---|---|---|---|
| | | 9 | | |
| | 9 | 0 | | |

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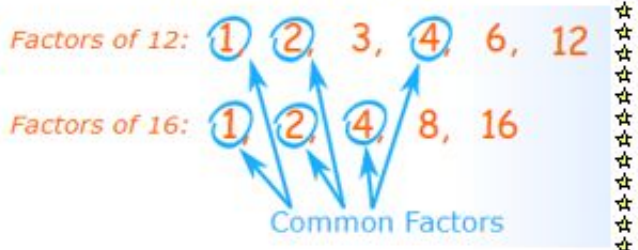
# Common Factor

"Factors" are numbers we can multiply together to get another number.

When we find the factors of two or more numbers, and then find some factors are the same ("common"), then they are the "common factors".

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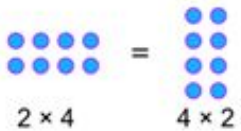
# Commutative Law

The Law that says you can swap numbers around and still get the same answer when you add.
Or when you multiply.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# Composite number

A number with more than two factors


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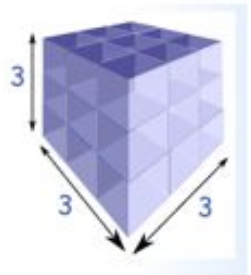
# Cube Number

(Cube root)

The result of using a whole number in a multiplication three times.

Example: 3 × 3 × 3 = 27, so 27 is a cube number.




The cube root of a number is a special value that, when used in a multiplication **three times**, gives that number.

Example: 3 × 3 × 3 = 27, so the cube root of 27 is 3.

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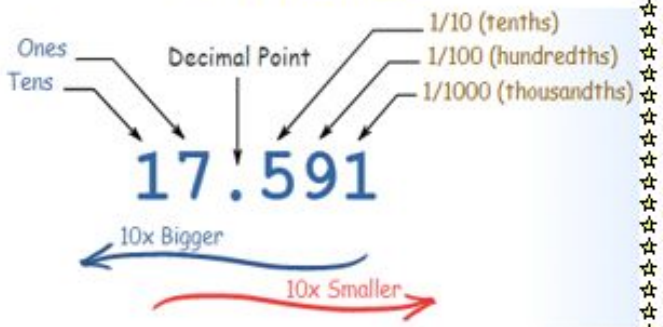
# Decimal point

A point (small dot) used to separate the whole number part from the fractional part of a number.

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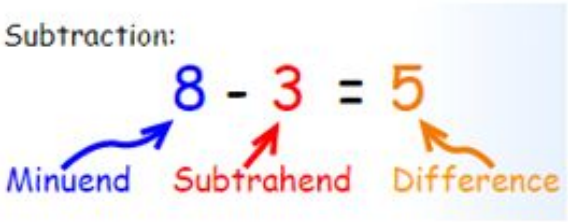
# Difference

By how much a number is bigger or smaller than another.

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# Difference

The result of subtracting one number from another. How much one number differs from another.

Subtraction:


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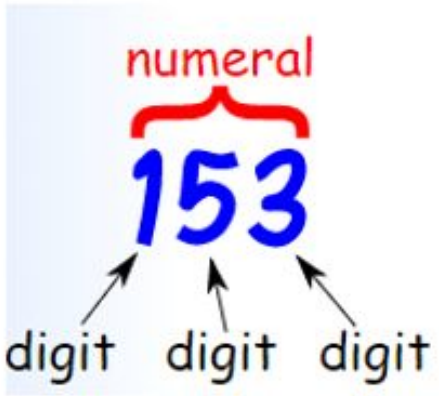
# Digit

Any number from 0 to 9 (inclusive).

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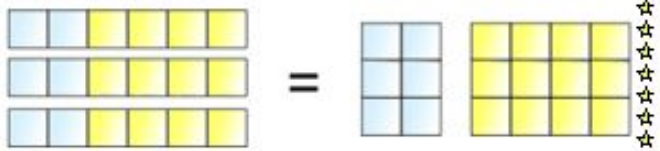
# Distributive Law

The Distributive Law says that **multiplying a number by a group of numbers added together** is the same as doing each multiplication separately.




3 x (2+4)

3x2 + 3x4

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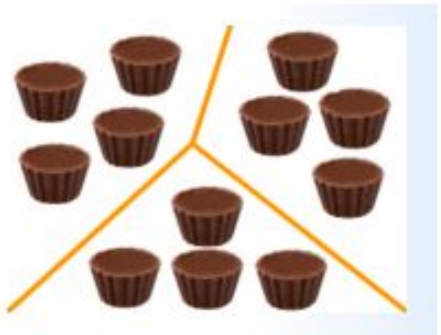
# Divide

To split into equal parts or groups. It is "fair sharing".



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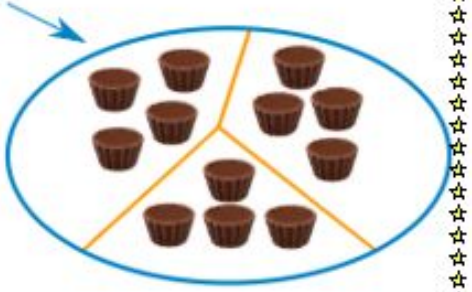
# Dividend

The amount that you want to divide up.

dividend ÷ divisor = quotient

12 ÷ 3 = 4

Dividend



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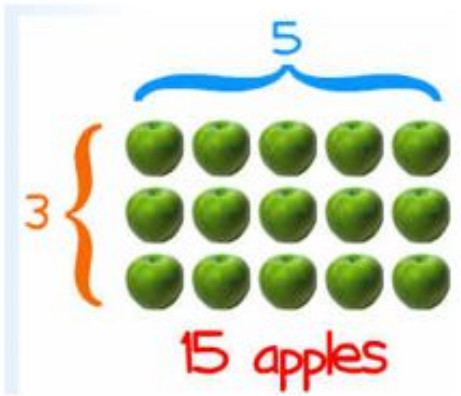
# Divisible

When dividing by a certain number gives a **whole number answer.**

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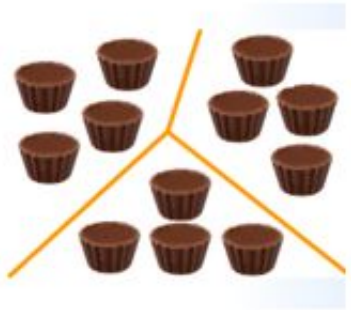
# Division

Division is splitting into equal parts or groups. It is the result of "fair sharing".



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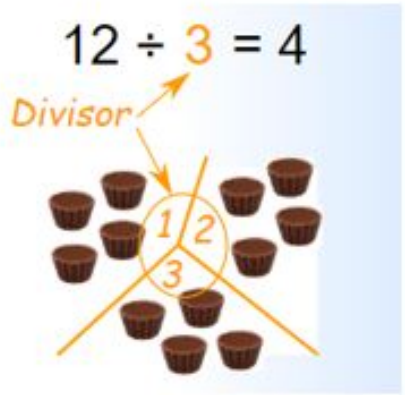
# Divisor

The number we divide by.

dividend ÷ divisor = quotient

Divisor can also mean: a number that divides an integer exactly (no remainder).

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Double

To multiply by 2. To have 2 of something.

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# Equal

Exactly the same amount or value

The symbol is =

1+1=2

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# Equal Sign

The symbol =

Shows that what is on the left of the sign is exactly the same amount or value as what is on the right of the sign.


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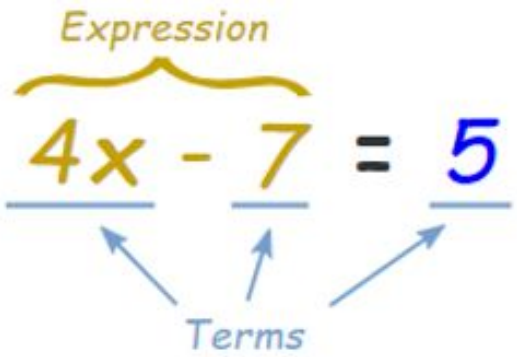
# Equation

A statement of equality between two expressions (e.g. 3 x 4 = 6 + 6).

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# Estimate

## Estimation

To find a value that is close enough to the right answer, usually with some thought or calculation involved.

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# Evaluate

To calculate the value of

Example: Evaluate the cost of each pie when 3 pies cost $6.
Answer: $2 each.

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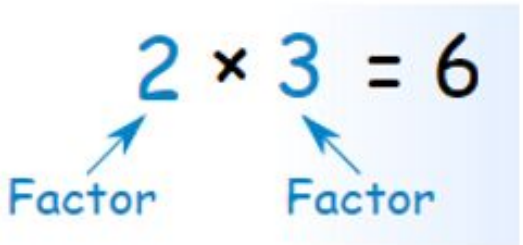
# Factor

A number which will divide exactly into another number.

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# Greatest Common Factor

The greatest number that is a factor of two (or more) other numbers.

When we find all the factors of two or more numbers, and some factors are the same ("common"), then the largest of those common factors is the Greatest Common Factor.


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# Highest Common Factor

The greatest number that is a factor of two (or more) other numbers.

When we find all the factors of two or more numbers, and some factors are the same ("common"), then the largest of those common factors is the Greatest Common Factor.


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Increase

Make something bigger (in size or quantity)

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# Inverse

Opposite in effect. The reverse of.

The inverse of adding 9 is subtracting 9.

The inverse of multiplying by 5 is dividing by 5.

There are many inverses in mathematics!

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# Inverse Operation

The operation that reverses the effect of another operation.

Example: Addition and subtraction are inverse operations.
Start with 7, then add 3 we get 10, now subtract 3 and we get back to 7

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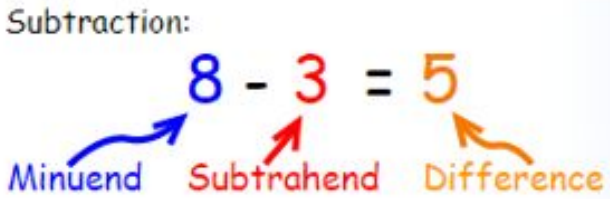
# Minuend

The first number in a subtraction. The number from which another number (the Subtrahend) is to be subtracted.

**minuend – subtrahend = difference**

Subtraction:

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Minus

Subtract. Take away. Decrease by.

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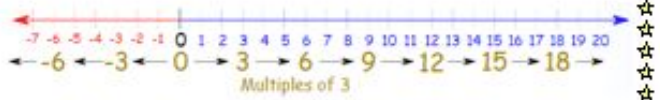
# Multiple

The product of a given number with another factor

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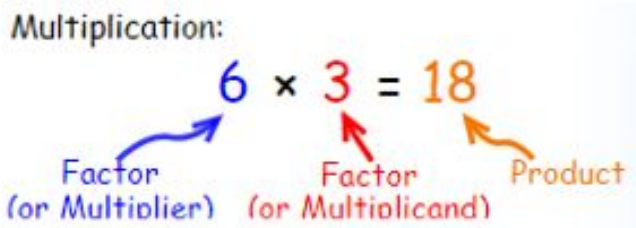
Multiplicand

The number that gets multiplied.

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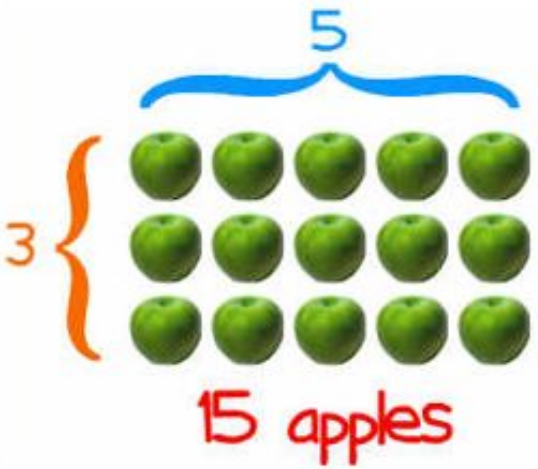
# Multiplication

Repeated addition

Groups of

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# Multiplier

The number that you are multiplying by.

Multiplication:


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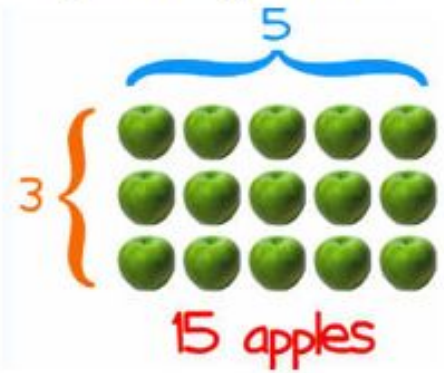
# Multiply

The basic idea of multiplying is repeated addition.

Example: $5 \times 3 = 5 + 5 + 5 = 15$

But as well as multiplying by whole numbers, we can also multiply by fractions, decimals and more.

Example: $5 \times 3\frac{1}{2} = 5 + 5 + 5 +$ (half of 5) $= 17.5$

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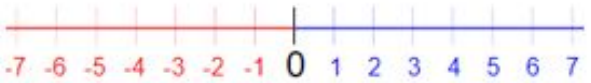
# Negative

Less than zero. A negative number is written with a minus sign in front

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# Number Line

A line with numbers placed in their correct position.


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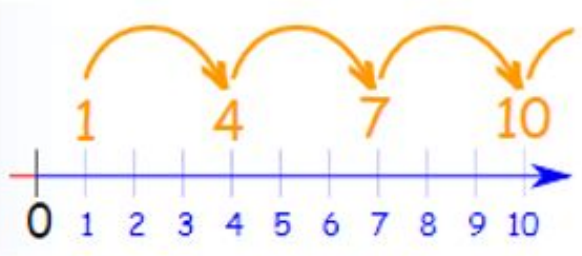
# Number Pattern

A list of numbers that follow a certain sequence or pattern.

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# Operation

A mathematical process.

The most common are add, subtract, multiply and divide (+, −, ×, ÷).

But there are many more, such as squaring, square root, logarithms, etc.

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# Order of operations

## BIDMAS

## BODMAS

The rules that say which calculation comes first in an expression.

1. ( )
2. $x^2$
3. × ÷
4. + −

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# Pattern

Things arranged following a rule or rules.

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# Place Holder

Zero is also used as a "place-holder" so that you can write a numeral properly.

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Plus

Another word for add

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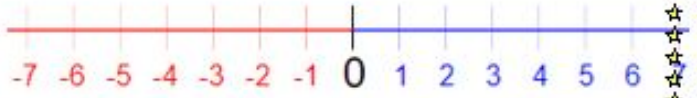
# Positive

Greater than zero.

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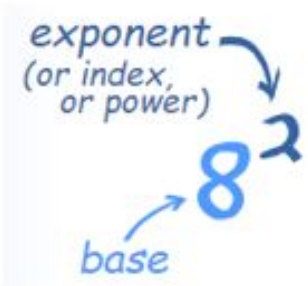
# Power

The power (or exponent) of a number says how many times to use the number in a multiplication.

It is written as a small number to the right and above the base number.

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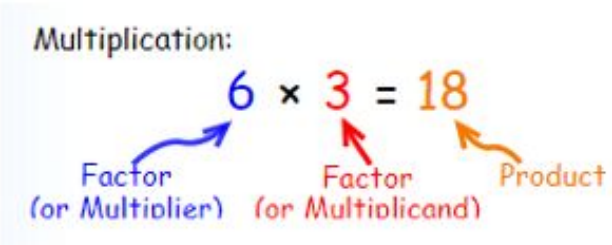
# Product

The result when two or more numbers are multiplied.

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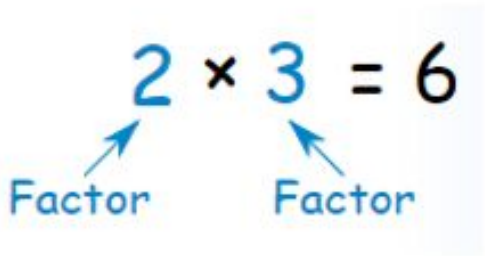
Prime Factor

A factor that is a prime number.

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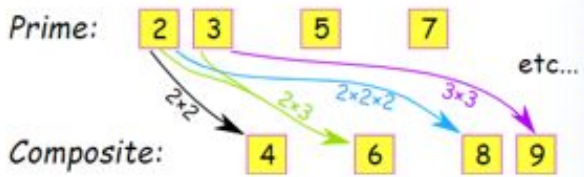
# Prime number

A number with only two factors, 1 and itself (e.g. 2,3,5,7,11, 13, 17, 19, 23…)

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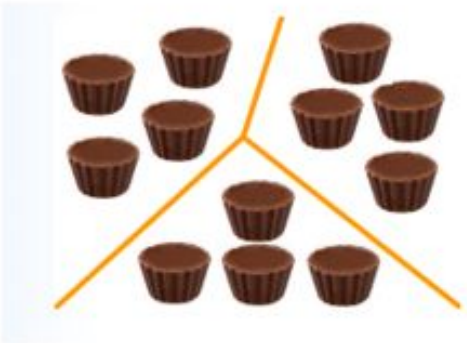
# Quotient

The result when one number is divided by another number.



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# Recurring Decimal

A decimal number with a digit (or group of digits) that repeats forever.

$\frac{1}{3} = 0.333\ldots = 0.\dot{3} = 0.\overline{3}$

Fraction — Ways to show recurring decimals

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# Remainder

An amount left over after division (happens when the first number does not divide exactly by the other).

$19 \div 5 = 3 \text{ R } 4 = 3\frac{4}{5}$

Remainder

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# Sequence

A list of numbers or objects in a special order.

*Sequence:*

3, 5, 7, 9, ...

1st term, 2nd term, 3rd term, 4th term

three dots means goes on forever (infinite)

("term", "element" or "member" mean the same thing)

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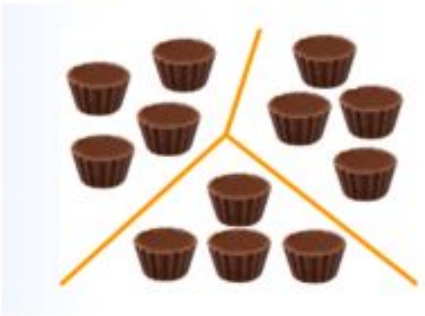
# Sharing

Splitting into equal parts or groups.



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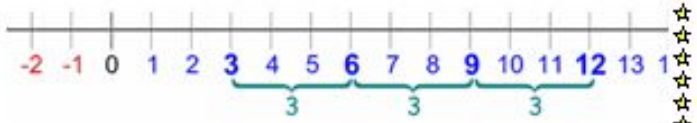
# Skip Counting

Counting forwards or backwards by a number other than 1

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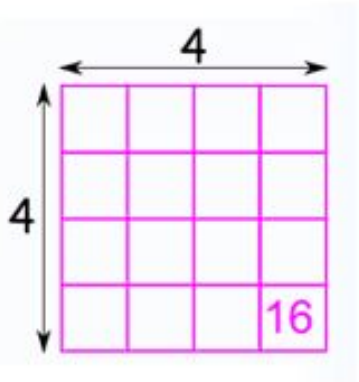
# Squared

A number squared is a number multiplied by itself

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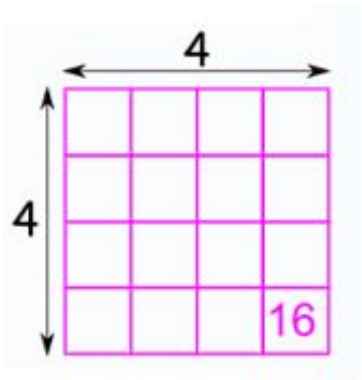
# Square number

A number whose units can be arranged into a square (e.g. 1,4,9,16,25,36,49,64…)

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# Subtract

To take one number away from another..

The symbol of subtraction is –

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# Subtract

To take one number away from another..

The symbol of subtraction is –

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# Subtraction

To take one number away from another..

The symbol of subtraction is –

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# Subtrahend

The number that is to be subtracted. The second number in a subtraction.

minuend – subtrahend = difference

Subtraction:


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# Sum

The result when two or more numbers are added together.

Addition:


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# Symbol

A pattern, character or image used instead of words.

Example: "+" is the symbol for "plus"

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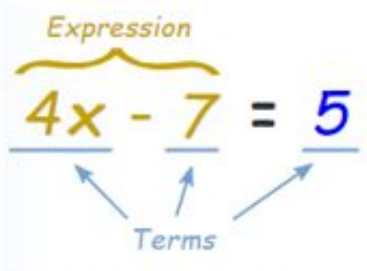
# Term

In Algebra a term is either a single number or variable, or numbers and variables multiplied together.

Terms are separated by + or − signs, or sometimes by divide.

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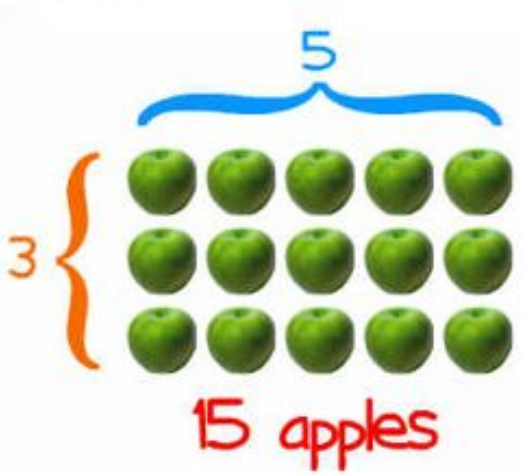
# Times

Another word for multiply

Example: 3 times 5 is 15

The symbol is ×

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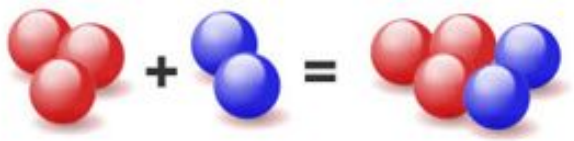
Total

The result of adding



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# Trial and error

A way to solve things by making our best try, seeing the result and how much it is in error, then making a better try until we get the desired result.

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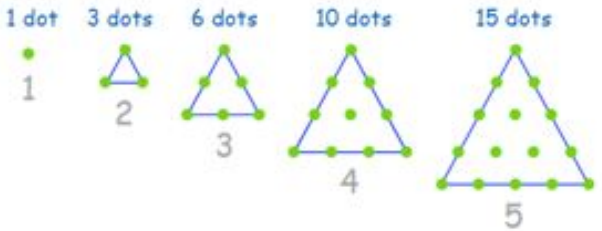
# Triangular number

A number whose units can be arranged into a triangle (e.g. 1, 3, 6, 10, 15, 21…)

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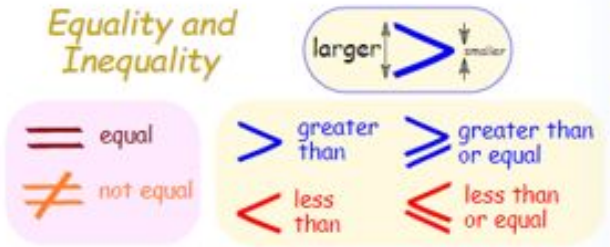
# Unequal

## Not equal

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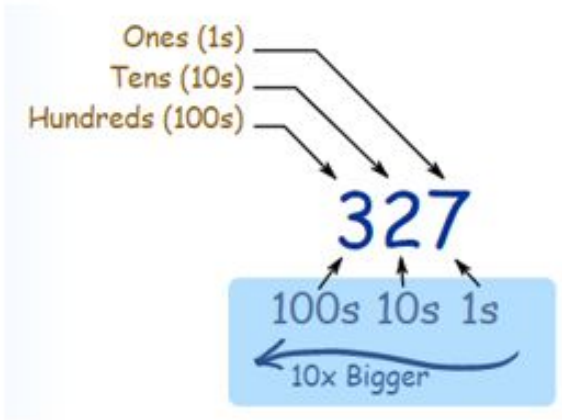
# Units

How many ones. How many single items.

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# Value

A result of a calculation / how much something is worth in money / the value of the digit in the place that it holds in the number.

1+1=2


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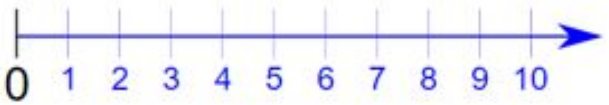
# Whole Number

Any of the numbers {0, 1, 2, 3, ...} etc.

There is no fractional or decimal part. And no negatives.

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# Zero

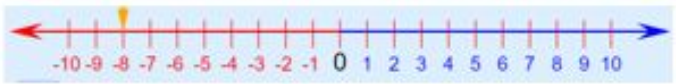
The whole number between −1 and 1, with the symbol 0

Shows that there is no amount.

Zero is not positive and is also not negative.

When we add zero to a number the result is just the number, unchanged. When we multiply a number by zero we get zero.

Zero is also used as a "place-holder" so that you can write a numeral properly.

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