

# Mathematical terms

There are a number of basic mathematical words that students need to learn (and so do the workers supporting them). While you need to be able to correctly use each of the terms in the table below, you will also need to be aware of the many other mathematical terms and gradually learn what these mean and how they are used in the context of your work in a classroom:

Math word	Meaning
<b>Acute angle</b>	An angle measuring less than 90 degrees.
<b>Add / addition</b>	To bring two or more numbers (or things) together to make a new total; the sum of numbers
<b>Adjacent</b>	Angles or sides of a figure immediately next to each other.
<b>Algebra</b>	A section of mathematics where numbers are represented by letters.
<b>Angle</b>	The amount of turn between two straight lines that have a common end point (the vertex).
<b>Approximate</b>	To estimate a number, amount or total; often rounding it off to the nearest whole number, ten or 100.
<b>Arc</b>	Section of a curve; part of the circumference or boundary of a circle.
<b>Area</b>	The surface; the size a surface takes up, measured in square units.
<b>Ascending order</b>	Arranged from smallest to largest.
<b>Average</b>	The mean of a number of numbers; the total of all the numbers divided by the number of numbers.
<b>Axis</b>	Real or imaginary reference line.
<b>Balance</b>	When both sides have the same quantity or mass.
<b>Bisect</b>	To divide into two equal parts.
<b>Breadth</b>	Breadth just means Width. The distance from side to side.
<b>Calculator</b>	A machine or program used for doing mathematical calculations.
<b>Centimetre</b>	A centimetre is a measure of length; there are 100 centimetres in a metre. The abbreviation is cm.
<b>Circle</b>	A 2-dimensional shape made by drawing a curve that is always the same distance from a centre.
<b>Circumference</b>	The distance around the edge of a circle.
<b>Coefficient</b>	A number used to multiply a variable.

<b>Common factor</b>	<p>Factors are the numbers you multiply together to get another number</p> <p>When you find the factors of two or more numbers, and then find some factors are the same ("common"), then they are the "common factors".</p> <p>A whole number that divides two or more numbers exactly.</p>
<b>Common denominator</b>	When two or more fractions have the same denominator (the number on the bottom) they have a Common Denominator.
<b>Congruent</b>	Having the same shape and size. Two shapes are congruent when you can Turn, Flip and/or Slide one so it fits exactly on the other.
<b>Decimal number system</b>	The number system we use every day, based on 10 digits (0,1,2,3,4,5,6,7,8,9). Position is important, with the first position being units, then next on the left being tens, then hundreds and so on.
<b>Decimal point</b>	<p>A point or dot used to separate the whole number part from the fractional part of a number. Example: in the number 42.6 the point separates the 42 (the whole number part) from the 6 (the fractional part, which really means 6 tenths).</p> <p>So 42.6 is 42 and six tenths.</p>
<b>Decimal fraction</b>	<p>A fraction where the denominator (the bottom number) is a power of ten (such as 10, 100, 1000, etc). Decimal fractions can be written with a decimal point (and no denominator), which make it easier to do calculations like addition and multiplication on fractions. Example:</p> <p>9/10 is a decimal fraction and it can be shown as 0.9</p>
<b>Decrease</b>	Make something smaller (in size or quantity).
<b>Deduct</b>	To take away from. To subtract.
<b>Degree</b>	<p>Meaning 1: A measure for angles. There are 360 degrees in a full rotation. The symbol for angle degrees is °</p> <p>Meaning 2: A measure of temperature (how hot or cold it is). The symbol for temperature degrees is °</p>
<b>Denominator</b>	The bottom number in a fraction. Shows how many equal parts the item is divided into.
<b>Descending</b>	Arranged from largest to smallest. Decreasing.
<b>Dimension</b>	A measurement of length in one direction. Examples: width, depth and height are dimensions.
<b>Division</b>	Sharing or grouping a number into equal parts. It is the result of "fair sharing".
<b>Equation</b>	A mathematical statement that says two things are equal. It will have an equals sign "=" in the statement. Example: $5 + 2 = 10 - 3$
<b>Even number</b>	Any integer (not a fraction) that can be divided exactly by 2.

<b>Factor</b>	Factors are numbers that are multiplied together to get another number. Example: 4 and 3 are factors of 12, because $4 \times 3 = 12$ .
<b>Formula</b>	A mathematical rule using symbols; a special type of equation that shows the relationship between different variables.
<b>Fraction</b>	Any part of a group, number or whole.
<b>Geometry</b>	An area of mathematics dealing with solids, surfaces, points, lines, curves and angles and their relationships. Plane Geometry is about flat shapes like lines, circles and triangles. Solid Geometry is about solid (3-dimensional) shapes like spheres and cubes.
<b>Gram</b>	A metric unit of mass (weight). 1,000 grams = 1 kilogram
<b>Graph</b>	A diagram of values, usually shown as lines or bars.
<b>Half</b>	One of two equal parts of a whole
<b>Height</b>	The vertical distance from top to bottom.
<b>Hemisphere</b>	In geometry it is an exact half of a sphere.
<b>Heptagon / septagon</b>	A 7-sided polygon (a flat shape with straight sides).
<b>Hexagon</b>	A 6-sided polygon (a flat shape with straight sides).
<b>Horizontal</b>	Going side-to-side, like the horizon; Parallel to the horizon.
<b>Intersect</b>	To cross over another. To cross over (have some common point)
<b>Isosceles triangle</b>	A triangle with two equal sides. The angles opposite the equal sides are also equal.
<b>Kilogram</b>	A Metric measure of mass. The abbreviation is kg. 1 kg = 1,000 grams
<b>Litre</b>	A Metric unit of volume; mostly used to measure liquids. The abbreviation is L. 1 litre = 1,000 millilitres (ml)
<b>Least</b>	The smallest in a group.
<b>Length</b>	Distance. How far from end to end or from one point to another.
<b>Less</b>	Not as many of; smaller.
<b>Lowest common denominator</b>	The smallest number that can be used for all denominators of 2 or more fractions.
<b>Mathematics</b>	The study of numbers, quantities, shapes and space using set processes, rules and symbols.
<b>Measure</b>	To find a number that shows the size or amount of something. Usually the number is in reference to some standard measurement, such as a meter or kilogram.

<b>Metre</b>	The basic unit of length (or distance) in the Metric System. The abbreviation is m.
<b>Minus</b>	Subtract. Take away. Decrease by.
<b>Mixed number</b>	A whole number and a fraction combined into one "mixed" number. Example: $1\frac{1}{2}$ (one and a half) is a mixed number.
<b>Multiplication</b>	The basic idea of multiplication is repeated addition of a number to itself. Example: $5 \times 3 = 5 + 5 + 5 = 15$
<b>Negative number</b>	A number less than zero; a negative number is written with a minus sign in front.
<b>Numerator</b>	The top number in a fraction.
<b>Obtuse angle</b>	An obtuse angle is one which is more than $90^\circ$ but less than $180^\circ$ . It is between a right angle and a straight angle.
<b>Octagon</b>	An 8-sided polygon (a flat shape with straight sides).
<b>Odd number</b>	Any integer (not a fraction) that cannot be divided exactly by 2. The last digit is 1, 3, 5, 7 or 9
<b>Order of operations</b>	The rules used to identify which calculation comes first in an expression. These rules are: <ul style="list-style-type: none"> <li>• Do everything inside parentheses first: ( );</li> <li>• Do exponents, like <math>x^2</math>;</li> <li>• Do multiples and divides from left to right; and</li> <li>• Then the addition and subtraction from left to right.</li> </ul>
<b>Ordering</b>	Arranging objects or numbers according to size, amount or value.
<b>Pair</b>	Two items together; often with something in common. Example: [10, 7] is a pair of numbers
<b>Parallel</b>	Always the same distance apart and never touching.
<b>Pentagon</b>	A 5-sided polygon (a flat shape with straight sides).
<b>Percent / Percentage</b>	Percent means parts per 100. The symbol is % Example: 35% means 35 per 100
<b>Perimeter</b>	The distance around a two-dimensional shape. The perimeter of a circle is called the circumference.
<b>Perpendicular</b>	At right angles ( $90^\circ$ ) to.
<b>Polygon</b>	A plane shape (two-dimensional) with straight sides. Examples: triangles, rectangles and pentagons. A circle is not a polygon because it has a curved side.

<b>Positive number</b>	A number greater than zero. (Negative means less than zero. Zero is neither negative nor positive.) Example: 5 is positive five.
<b>Prime number</b>	A Prime Number can be divided evenly only by 1, or itself. It must be a whole number greater than 1. Example: 7 can only be divided evenly by 1 or 7, so it is a prime number.
<b>Problem</b>	A question where mathematics is used to work out the answer. In mathematics some problems use words: <i>"Paula was walking at 3 km per hour for half an hour. How far did he walk?"</i> Some use equations: <i>"Solve <math>y + 7 = 43</math>"</i>
<b>Protractor</b>	An instrument used in measuring or drawing angles.
<b>Quadrangle</b>	Another name for Quadrilateral (a flat shape with four straight sides).
<b>Quadrilateral</b>	A flat shape with four straight sides.
<b>Quantity</b>	The amount or number of something.
<b>Quarter</b>	One of four equal parts; written as $\frac{1}{4}$
<b>Radius</b>	The distance from the centre to the circumference of a circle; it is half of the circle's diameter.
<b>Ratio</b>	A ratio shows the relative or comparative sizes of two or more values. Ratios can be shown in different ways. Using the ":" to separate example values, or as a single number by dividing one value by the total. Example: if there is 2 dogs and 3 cats you could write the ratio as: 2:3 (for every two dogs there are 3 cats) $\frac{2}{5}$ are dogs and $\frac{3}{5}$ are cats 0.4 are dogs (by dividing 2 by 5) 40% are dogs (0.4 as a percentage)
<b>Recurring decimal</b>	A decimal number that has digits that repeat forever.
<b>Remainder</b>	The amount left over when a number is divided.
<b>Rhombus</b>	A 4-sided flat shape with straight sides where all sides have equal length. Also opposite sides are parallel and opposite angles are equal. It is a type of parallelogram.
<b>Right angle</b>	An angle measuring one right angle.
<b>Right angle triangle</b>	A triangle with one right angle contained within it.

<b>Roman numerals</b>	How ancient Romans used to write numbers. I means 1, V means 5, X means 10, L means 50, C means 100, D means 500 and M means 1000 Example: 2015 = MMXV
<b>Sphere</b>	Three dimensional solid that is perfectly round; a ball is a sphere.
<b>Squaring a number</b>	To multiply a number by itself. Example: $4 \times 4 = 16$
<b>Square number</b>	The number we get after multiplying an integer (not a fraction) by itself. Example: $4 \times 4 = 16$ , so 16 is a square number.
<b>Square root</b>	The square root of a number is a value that, when multiplied by itself, gives the number. Example: $4 \times 4 = 16$ , so a square root of 16 is 4.
<b>Subtraction</b>	Taking one number away from another. Example: If you have 6 ice blocks and you subtract 2, you are left with 4. The symbol of subtraction is –
<b>Sum</b>	The result of adding two or more numbers. Example: 9 is the sum of 2, 4 and 3 because $2 + 4 + 3 = 9$
<b>Surface area</b>	The total area of the surface of a three-dimensional object. Example: The surface area of a cube is the area of all 6 faces added together.
<b>Vertical</b>	In an up-down position. Upright; at right angles to the horizon.
<b>Whole number</b>	The numbers {0, 1, 2, 3, 4, ...} etc. There is no fractional or decimal part and no negatives.
<b>Width</b>	The distance from side to side.
<b>Zero</b>	The whole number between –1 and 1, with the symbol 0; it shows that there is no amount. Example: $6 - 6 = 0$ (the difference between six and six is zero). Zero is not positive and is also not negative.