**Mathematics Glossary**

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| 2-D, 3-D | Two-dimensional (e.g. a plane figure such as a circle), three-dimensional (e.g. a solid figure such as a cube). |
| Acute angle | An angle between 0° and 90° |
| Addition | The operation to combine two numbers or quantities to form a further number or quantity, the sum or total. Addition is the inverse operation to subtraction. |
| Algebra | The part of mathematics that deals with generalised arithmetic. Letters are used to denote variables and unknown numbers. |
| Analogue clock | A clock usually with 12 equal divisions labelled 1 to 12 to represent hours. Each twelfth is subdivided into five equal parts to represent minutes. The clock has two hands that rotate about the centre. The minute hand completes one revolution in an hour whilst the hour hand completes one revolution in 12 hours. |
| Angle | Where two line segments meet at a point, the term describes the rotation from one line segment to the other. Angles are measured in degrees (°). |
| Anticlockwise | In the opposite direction from the hands of an analogue clock. |
| Area | A measure of the size of any plane surface. Area is usually measured in square units e.g. square centimetres (cm2), square metres (m2). |
| Array | An ordered collection of counters, numbers etc. in rows and columns |
| Associative | A binary operation \* is associative if a \* (b \* c) = (a \* b) \* c.Addition and multiplication are associative. For example:1 + (2 + 3) = (1 + 2) + 3.Subtraction and division are not. |
| Average | Loosely an ordinary or typical value, however, a more precise mathematical definition is a measure of central tendency. Different sorts of average are mean, mode and median. |
| Axis | A fixed reference line along which or from which distances or angles are taken. |
| Axis of symmetry | A line about which a geometrical shape is symmetrical. |
| Bar chart | A format for representing statistical information. Bars, of equal width, represent frequencies and the lengths of the bars are proportional to the frequencies. |
| Bar line chart | Similar to a bar chart, the width of the bars is reduced so that they appear as lines. The lengths of the lines are proportional to the frequencies. |
| Binary operation | A rule for combining two numbers. Addition, subtraction, multiplication and division are binary operations. |
| Brackets | Symbols used to show items that should be treated together or as having priority. |
| Cancel (fraction) | One way to simplify a fraction. The numerator and denominator are divided by a common factor. |
| Capacity | Volume (i.e. a measure of three-dimensional space) applied to liquids or the space within containers. Units include cubic centimetres (cm3) and cubic metres (m3). A litre is equivalent to 1000cm3. |
| Cardinal number | A number that denotes quantity, e.g. 1, 5,23, as opposed to position within a series (e.g. 1st, 5th, which are ordinal numbers). |
| Centi- | Prefix meaning one-hundredth (of). |
| Centimetre | Symbol: cm. A unit of linear measure, one hundredth of a metre. One inch is approximately 2.54 centimetres. |
| Centre | The middle point. |
| Chart | As in bar chart, pie chart. Another word for graph. |
| Chord | A straight-line segment joining two points on a circle or other curve. |
| Chronological | Events that occur in a time ordered sequence. |
| Circle | A set of points in a plane at a fixed distance (the radius) from a fixed point (the centre). |
| Circular | In the form of a circle. |
| Circumference | The length around a circle (its perimeter). |
| Clockwise | In the direction in which the hands of a clock travel. Anti-clockwise or counter-clockwise are terms used for the opposite direction. |
| Coefficient | Often used for the numerical factor of an algebraic term, for example in the term 4x, 4 is the coefficient. |
| Column | A vertical arrangement. |
| Commutative | A binary operation \* is commutative if a \* b = b \* a. Addition and multiplication are commutative; subtraction and division are not. |
| Compasses (pair of) | An instrument for constructing circles and circular arcs and for marking points at a given distance from a fixed point. |
| Complement (in addition) | In addition, a number and its complement have a given total. For example, for complements of 10, 3 has the complement 7.  |
| Compound measures | Measures with two dimensions and requiring calculation. Example: speed = distance $÷$ time. |
| Concave | Curving inwards. |
| Cone | A circular pyramid. |
| Consecutive | Following in order. Consecutive numbers are adjacent in a count. |
| Constant | A number or quantity that does not change.  |
| Continuous data | For example, lengths, weights.  |
| Convex | Curved outwards. |
| Coordinate | A number used to define the position of a point. In two dimensions, a point will have an x coordinate and a y coordinate. |
| Corner | A point where two or more lines meet. More correctly called a vertex (plural vertices). |
| Cross-section | A section in which the plane that cuts a figure is at right angles to an axis of the figure. |
| Cube | In geometry, a 3-D figure with six identical square faces at right anglesIn number and algebra, the result of multiplying to power of three. |
|  Cube number | A number that can be expressed as the product of three equal integers. Example: 27 = 3 x 3 x 3, so 27 is a cube number. |
| Cube root | A value whose cube is equal to a given number. Example: the cube root of 8 is 2 because 2 x 2 x 2 = 8. |
| Cubic centimetre | A unit of volume. The 3-D space equivalent to a cube with edge length 1cm. Symbol cm3. |
| Cuboid | A 3-D figure with six rectangular faces. |
| Cylinder | A 3-D object whose uniform cross-section is a circle. |
| Data | Information consisting of counts or measurements. |
| Decimal | Relating to the base 10. Most commonly used synonymously with decimal fraction where the number of tenths, hundredths, thousands etc. are represented as digits following a decimal point. |
| Degree | Symbol °. In the measurement of angles, a unit of turn. One whole turn is equal to 360 degrees. |
| Denominator | In the notation of common fractions, the number written below the line, i.e. the divisor. |
| Diagonal (of a polygon) | A line segment joining any two non-adjacent vertices of a polygon. |
| Diagram | A picture, a geometric figure or a representation.  |
| Diameter | Any chord of a circle or sphere that passes through the centre. |
| Difference | The result of a subtraction. |
| Digit | One of the symbols 0, 1, 2, 3, 4, 5, 6, 7, 8, 9. |
| Digital clock | A clock that displays the time in digits as hours and minutes passed since midnight. |
| Dimension | A property relating to geometrical figures; their length, width, etc. A point is treated as having no dimensions, a line as having one dimension, a plane shape as having two dimensions (length and width), and a solid as having three dimensions (length, width, height). |
| Directed number | A numbered point on a directed line. Positive numbers are to the right of zero (or up), and negative numbers to the left (or down). |
| Divisible (by) | A whole number is divisible by another if there is no remainder after division and the result is a whole number. |
| Division | The number to be divided is shared equally into the stated number of parts. Division is the inverse operation to multiplication. |
| Divisor | The number by which another is divided. |
| Double | To multiply by two, or the number or quantity that is twice another. |
| Edge | A line segment joining two vertices of a figure. |
| Equal | Symbol =. Means having the same value as. |
| Equation | A mathematical statement showing that two expressions have equal value. |
| Equilateral | Of a polygon, having sides of equal length. |
| Equivalent fraction | A fraction with the same value as another. For example, $ ^{6}/\_{12}$ = $^{3}/\_{6}$ = $^{1}/\_{2}$ . |
| Estimate | A rough or approximate answer. |
| Evaluate | Find the value of a numerical or an algebraic expression. |
| Even number | An integer that is divisible by two. |
| Expression | A mathematical form expressed symbolically. |
| Face | One of the flat surfaces of a solid shape. |
| Factor | When a number can be expressed as the product of two or more numbers, these are factors of the first. |
| Factorise | To express a number as the product of its factors. |
| Foot | Symbol: ft. An imperial measure of length. 1 foot = 12 inches. |
| Formula | An equation linking sets of physical variables. (Plural formulae.) |
| Fraction | A number expressed as one integer (the numerator) on top of a line and another integer (the denominator) below the line. |
| Frequency | The number of times an event occurs. |
| Gallon | Symbol: gal. An imperial measure of volume applied to liquids or capacity. One gallon is approximately 4.546 litres. |
| Generalise | To formulate a general statement or rule. |
| Gradient | A measure of the slope of a line. |
| Gram | Symbol: g. The metric unit of mass equal to one thousandth of a kilogram. |
| Graph | A diagram showing a relationship between variables. |
| Grid | A lattice created with two sets of parallel lines. |
| Hexagon | A polygon with six sides. |
| Horizontal | Parallel to the horizon. |
| Hour | A unit of time. One hour = 60 minutes. One day = 24 hours. |
| Hundred square | A 10 by 10 grid numbered 1 to 100. |
| Imperial unit | A unit of measurement historically used in the United Kingdom and other English speaking countries. Units include inch, foot, yard, mile, acre, ounce, pound, stone, hundredweight, ton, pint, quart and gallon. Now largely replaced by metric units. |
| Improper fraction | One that has a numerator that is greater than its denominator. |
| Inch | Symbol: in. An imperial unit of length. 12 inches = 1 foot. 36 inches = 1 yard. One inch is approximately 2.54 cm. |
|  Infinite | Of a number, always bigger than any (finite) number that can be thought of. Of a sequence or set, going on for ever. |
| Integer | A positive or negative whole number, or zero. |
| Interior angle | At a vertex of a polygon, the angle that lies within the polygon. |
| Inverse operations | Operations that perform the opposite. Addition and subtraction are inverse operations. Multiplication and division are inverse operations. |
| Isosceles triangle | A triangle that has two equal sides (and consequently two equal angles). |
| Kilo- | A prefix denoting one thousand. |
| Kilogram | Symbol: kg. The base unit of mass in the metric system. 1kg = 1000g. One kilogram is approximately 2.2 pounds. |
| Kilometre | Symbol: km. A metric unit of length. 1km = 1000m. One kilometre is approximately five-eighths of a mile. |
| Kite | A quadrilateral with two equal, adjacent sides and the other two sides of equal length, and whose diagonals intersect at right angles. |
| Line graph | A graph in which adjacent points are joined by straight lines. |
| Litre | Symbol: l. A metric unit used for measuring volume or capacity. A litre is equivalent to 1000 cubic centimetres and is approximately 1.76 pints. |
| Mass | In a constant gravitational field, mass is proportional to weight. |
| Mean | One measurement of average. The mean of a set of numbers is the sum of the numbers divided by how many there are. |
| Median | One measurement of average. The median of a set of numbers is the middle one when they are arranged in order. |
| Metre | Symbol: m. The base unit of length in the metric system. 1000m = 1km. A metre is approximately 38.37 inches. |
| Metric unit |  Units of measurement in the metric system. Metric units include metre, centimetre, millimetre, kilometre, gram and kilogram. |
| Mile | An imperial measure of length. 1 mile = 1760 yards. Five miles is approximately 8 kilometres. |
| Milli- | Prefix. One-thousandth. |
| Millilitre | Symbol: ml. One thousandth of a litre. |
| Millimetre | Symbol: mm. One thousandth of a metre. |
| Minus | The name for the symbol -, representing the operation of subtraction. |
| Minute | Unit of time. 60 minutes = one hour. 1 minute = 60 seconds. |
| Mixed fraction/Mixed number | A whole number and a fractional part. |
| Mode | One measurement of average. The most commonly occurring value. |
| Multiple | A number that can be expressed as the product of two numbers. For example, 24 is a multiple of 12 because 12 x 2 = 24. |
| Multiplication | The operation of combining two numbers to give a third number, the product. Multiplication is the inverse operation to division. |
| Multiply | Carry out the process of multiplication. |
| Negative number | A number less than zero. |
| Net | A plane figure composed of polygons, which by folding and joining can form a polyhedron. |
| Number bond | A pair of numbers with a particular total, e.g. number bonds to ten are all pairs of whole numbers with the total ten. |
| Number line | A line where numbers are represented by points on it. |
| Number square | A square grid in which cells are numbered in order. |
| Numeral | A symbol used to denote a number. |
| Numerator | In the notation of fractions, the number written on the top. |
| Oblong | Sometimes used to describe a non-square rectangle. |
| Obtuse angle | An angle greater than 90° but less than 180°. |
| Octagon | A polygon with eight sides. |
| Octahedron | A polyhedron with eight faces. |
| Odd number | A positive integer that has a remainder of 1 when divided by 2. |
| Ordinal number | A term that describes a position within an ordered set, e.g. 1st, 2nd, 3rd, etc. |
| Origin | A fixed point from which measurements are taken. |
| Ounce | Symbol: oz. An imperial unit of mass. 16 ounces = one pound. One ounce is approximately 28.35 grams. |
| Parallel | Always equidistant. Parallel lines never meet. |
| Parallelogram | A quadrilateral whose opposite sides are parallel and consequently equal in length. |
| Pattern | A systematic arrangement of numbers, shapes or other elements according to a rule. |
| Pentagon | A polygon with five sides. |
| Percentage | A fraction expressed as the number of parts per hundred and recorded using the symbol %. |
| Perimeter | The length of the boundary of a closed figure. |
| Perpendicular | A line or plane that is at right angles to another line or plane. |
| Pictogram | A format for representing statistical information. Suitable pictures, symbols or icons are used to represent objects. |
| Pie chart (pie graph) | A form of representation of statistical information. Within a circle, sectors like slices of a pie represent the quantities involved. The frequency of each quantity is proportional to the angle at the centre of the circle. |
| Pint | An imperial measure of volume applied to liquids or capacity. 8 pints = 4 quarts = 1 gallon. One pint is approximately 0.568 litres. |
| Place value | The value of a digit that relates to its position or place in a number (e.g. tens, units, tenths). |
| Plane | A flat surface. |
| Plot | The process of marking points. Points are usually defined by coordinates and plotted with reference to a given coordinate system. |
| Plus | The name for the symbol +, representing the operation of addition. |
| Point | An element, in geometry, that has position but no magnitude. |
| Polygon | A closed plane figure bounded by straight lines. |
| Polyhedron | A closed solid figure bounded by surfaces (faces) that are polygons. |
| Positive number | A number greater than zero. |
| Pound (mass) | Symbol: lb. An imperial unit of mass. 14 lb = 1 stone. 1 lb is approximately 455 grams. 1 kilogram is approximately 2.2 lbs. |
| Pound (money) | Symbol: £. A unit of money. One pound = 100 pence. |
| Power | A number raised to a power, e.g. 24 means 2 x 2 x 2 x 2. |
| Prime factor | A factor of a number that is a prime number. |
| Prime number | A whole number greater than 1 that has exactly two factors, itself and 1. |
| Prism | A solid with a constant cross-section. |
| Probability | The likelihood of an event happening. Probability is expressed on a scale from 0 (impossibility) to 1 (certainty). |
| Product | The result of multiplying one number by another. |
| Proper fraction | A fraction with a numerator that is less than its denominator. |
| Property | Any attribute. Example: One property of a square is that all its sides are equal. |
| Proportion | A part to whole comparison. |
| Protractor | An instrument for measuring angles. |
| Prove | To formulate a chain of reasoning that establishes in conclusion the truth of a proposition. |
| Pyramid | A solid with a polygon as the base and one other vertex, the apex, in another plane. Each vertex of the base is joined to the apex by an edge. |
| Quadrant | One of the four regions into which a plane is divided by the x and y axes in the Cartesian coordinate system. |
| Quadrilateral | A polygon with four sides. |
| Quotient | The result of a division. |
| Radius | In a circle, the distance from the centre to any point on the circumference. |
| Range | A measure of spread in statistics. The difference between the greatest value and the least value in a set of numerical data. |
| Ratio | A part-to-part comparison. The ratio of a to b is usually written a : b. |
| Rational number | A number that is an integer or that can be expressed as a fraction whose numerator and denominator are integers. |
| Reciprocal | The multiplicative inverse of any non-zero number. Example: $^{1}/\_{3}$ is the reciprocal of 3. |
| Rectangle | A parallelogram with an interior angle of 90 degrees. |
| Recurring decimal | A decimal fraction with an infinitely repeating digit or group of digits. The fraction $^{1}/\_{3}$ is the decimal 0.3333333… |
| Reduce (a fraction) | Divide the numerator and denominator by a common factor. To cancel a fraction. |
| Reflection | In 2-D, a transformation of the whole plane involving a mirror line or axis of symmetry. |
| Reflection symmetry | A 2-D shape has reflection symmetry about a line if an identical-looking object in the same position is produced by reflection in that line. |
| Reflex angle | An angle that is greater than 180° but less than 360°. |
| Regular | Describing a polygon, having all sides equal and all internal angles equal. |
| Remainder | In the context of division requiring a whole number answer (quotient), the amount remaining after the operation. |
| Repeated addition | The process of repeatedly adding the same number or amount. |
| Repeated subtraction | The process of repeatedly subtracting the same number or amount. |
| Rhombus | A parallelogram with all sides equal. |
| Right angle | One quarter of a complete turn. An angle of 90 degrees. |
| Rotation | In 2-D, a transformation of the whole plane which turns around a fixed point, the centre of rotation. |
| Rotation symmetry | A 2-D shape has rotational symmetry about a point if an identical-looking shape in the same position is produced by a rotation through an angle greater than 0° and 360°. |
| Round (verb) | In the context of a number, express to a required degree of accuracy, e.g. to the nearest whole number; to one decimal place. |
| Row | A horizontal arrangement. |
| Rule | Generally a procedure for carrying out a process. |
| Scale factor | For two similar geometric figures, the ratio of corresponding edge lengths. |
| Scalene triangle | A triangle with no two sides equal and consequently no two angles equal. |
| Second | A unit of time. One sixtieth of a minute. |
| Sequence | A succession of terms formed according to a rule. |
| Set | A well-defined collection of objects (called members or elements). |
| Set square | A drawing instrument for constructing parallel lines, perpendicular lines and certain angles. |
| Share (equally) | One model for the process of division. |
| Short division | A compact written method of division. |
| Sign | A symbol used to denote an operation, e.g. +, -, x, etc. |
| Similar figures | A geometric figure is similar to another if it is congruent to an enlargement of the other. |
| Simplify (a fraction) | Reduce a fraction to its simplest form by dividing numerator and denominator by a common factor. Also known as cancelling or reducing a fraction. |
| Sphere | A closed surface, in three-dimensional space, consisting of all the points that are a given distance from a fixed point, the centre. |
| Square (geometry) | A quadrilateral with four equal sides and four right angles. |
| Square (a number) | The square of a number is the product of the number and itself. |
| Square number | A number that can be expressed as the product of two equal numbers. Example: 25 is a square number since 5 x 5 = 25. |
| Square root | A number whose square is equal to a given number. Example: the square root of 25 is 5 since 52 = 25. |
| Subtraction | The inverse operation to addition. Finding the difference between two numbers. Take away. |
| Sum | The result of one or more additions. |
| Table | An orderly arrangement of information, numbers or letters, usually in rows and columns. |
| Take away | Subtract. |
| Tally | Make marks to represent objects counted; usually by drawing vertical lines and crossing the fifth count with a horizontal or diagonal strike through. |
| Temperature | A measure of the hotness of a body, measured by a thermometer or other form of heat sensor.Two common scales of temperature are the Fahrenheit scale ($℉)$ and the Celsius (or centigrade) scale ($℃$). |
| Terminating decimal | A decimal fraction that has a finite number of digits. |
| Tetrahedron | A solid with four triangular faces. |
| Total | The sum found by adding. |
| Translation | A transformation in which every point of a body moves the same distance in the same direction. |
| Trapezium | A quadrilateral with exactly one pair of sides parallel. |
| Triangle | A polygon with three sides. |
| Triangular number | A number that can be represented by a triangular array of dots with the number of dots in each row from the base decreasing by one. |
| Unit fraction | A fraction that has 1 as the numerator. |
| Vertex | The point at which two or more lines intersect. Plural: vertices. |
| Vertical | At right angles to the horizontal plane. |
| Volume | A measure of three-dimensional space. |
| Vulgar fraction | A fraction in which the numerator and denominator are both integers. Also known as common or simple fraction. |
| Weight | The force exerted on an object possessing mass by the gravity of the earth. |
| Yard | Symbol: yd. An imperial measure of length. 1 yard = 3 feet. 1760 yd = 1 mile. One yard is approximately 0.91 metres. |
| Zero | Nought or nothing. |