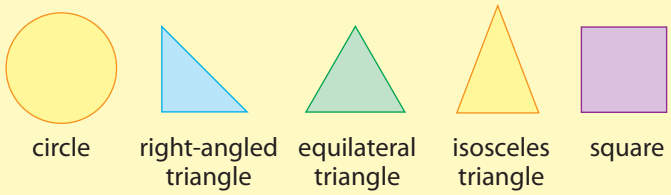
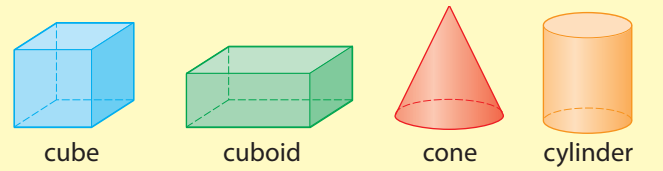
6 Glossary

2-dimensional (2-D)



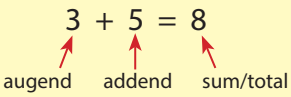
3-dimensional (3-D)



A

addend

The numbers being added together in an addition calculation. Augend + addend = sum (or total).



algebra

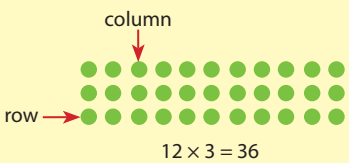
Where letters or symbols are used for unknown values.

arc

Part of the circumference of a circle.

array

An arrangement of numbers, shapes or objects in rows of equal size and columns of equal size, used to find out how many altogether.

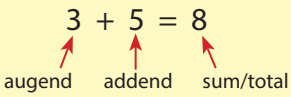


associative

Grouping numbers in different ways to add and multiply:
$5 + 19 + 36 = (36 + 5) + 19 = 41 + 19 = 60$
$4 \times 8 \times 5 = (4 \times 8) \times 5 = 32 \times 5 = 160$

augend

The number being added to in an addition calculation. Augend + addend = sum (or total).



average

The middle value of a set of numbers. It is found by adding all the numbers together and dividing by how many numbers there are.

B

balance

Things are balanced when both sides have equal value, e.g. $2a + b = c$.

C

capacity

The amount a container holds. It is measured in litres or millilitres, e.g. the capacity of a 2 litre bottle is 2 litres.

centilitre

One hundredth of a litre. Symbol: cl. 100 cl = 1 l.

circumference

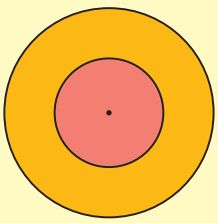
The perimeter of a circle. See also *arc*.

commutative

Addition and multiplication are commutative. It doesn't matter which order you add, multiply or divide, the answer is always the same. Same answer, different calculation, e.g. $3 + 4 = 4 + 3$. But subtraction is not commutative, e.g. $7 - 2 \neq 2 - 7$.

concentric

Circles which share the same centre.



congruent

Shapes are congruent if they are exactly the same shape and size.

consecutive

Numbers which follow each other in order.

13, 14, 15
consecutive numbers

24, 26, 28
consecutive even numbers

coordinate

An ordered pair of (x, y) values that gives the position of a point on a graph. In 3-D (x, y, z).

cubic millimetres (mm^3), cubic centimetres (cm^3), cubic metres (m^3), cubic kilometres (km^3)

Metric measurements of volume. 1 cm^3 is the volume enclosed in a cube of length 1 cm.

cube numbers

Formed when a number is multiplied by itself and then by itself again, e.g. 2 cubed = $2 \times 2 \times 2 = 2^3 = 8$.

D

denominator

The number underneath the vinculum. Also called the divisor.

diameter

A line passing across a circle, or a sphere, which passes through the centre. See also *radius*.

difference

The result of a subtraction. The difference between 12 and 5 is 7. See also *minuend, subtrahend*.

digit total/sum

The sum of all the digits in a number,
e.g. the digit sum of 435 is 4 + 3 + 5 = 12, and 1 + 2 = 3.

distribution

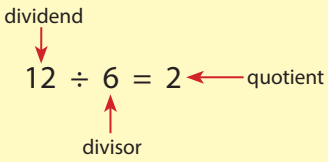
In statistics. The distribution of a set of values.

distributive law

Multiplying numbers by making equivalent numbers:
$7 \times 12 = (7 \times 7) + (5 \times 7) = 49 + 35 = 84$.
It works for larger numbers too:
$45 \times 6 = (40 \times 6) + (5 \times 6) = 240 + 30 = 270$.

dividend

The number that is divided in a division sum, e.g. in 12 ÷ 6 = 2, 12 is the dividend. See also *divisor, quotient*.

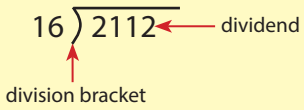


divisibility

Whether a number can be divided without remainder. All even numbers are divisible by 2.

division bracket

The half box around the dividend in a division. See also *dividend*.



divisor

The number that is used to divide in a division sum, e.g. in 12 ÷ 6 = 2, 6 is the divisor. See also *dividend, quotient*.

dodecahedron

A 3-D polyhedron with 12 faces. A regular dodecahedron has pentagonal faces.

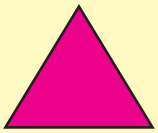
E

equation

A mathematical statement showing an equality, e.g. $10 \times 2 = 4 \times 5$ or $2x + 6 = 16$.

equilateral triangle

A triangle with 3 equal sides and 3 equal angles of 60°.



F

factor

Numbers that divide exactly into a number are its factors, e.g. the factors of 12 are 1, 2, 3, 4, 6, 12.

factorise

To write a number or algebraic expression as a product of 2 or more factors.

foot, feet

An imperial unit of length, approximately 30 cm. 12 inches = 1 foot and 3 feet = 1 yard.

formula, formulae

A mathematical statement using letters or symbols (variables), e.g. Area of a rectangle = length × width or $A = l \times w$.

G

greater than or equal to

Symbol: ≥. An inequality showing the lowest value a number can take. $n \geq 7$ means n can have any value from 7 upwards. See also *less than or equal to*.

I

imperial unit

A unit of measure from pre-metric measurements, e.g. inches, yards, miles, pints. Many are still in common use.

inch, inches

An imperial unit of length, approximately 2.5 cm. 12 inches = 1 foot.

intersecting, intersection

Where two lines cross.

inverse

Inverse operations leave the original value unchanged. The inverse of +4 is – 4. The inverse of × 4 is ÷ 4 or $\times \frac{1}{4}$. The inverse 'undoes' the action.

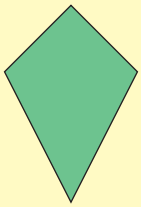
isosceles triangle

A triangle with 2 equal sides and 2 equal base angles. One of its angles can be a right angle. This is called a right-angled isosceles triangle.

K

kite

A quadrilateral with 2 pairs of equal adjacent sides.



L

less than or equal to

Symbol: ≤. An inequality showing the highest value a number can take. $n \leq 7$ means n can have any value up to and including 7. See also *greater than or equal to*.

linear number sequence

A sequence of numbers that increases by the same difference, e.g. 9, 13, 17, 21, 25 and so on.

M

mean

A measure of average.
Mean = total of all data values ÷ number of data points.

metric unit

Any unit used to measure on a metric scale, e.g. kilograms (kg), centimetres (cm), litres (l). All based on the decimal system.

minuend

The starting number in a subtraction calculation, e.g. 10 (the minuend) – 3 (the subtrahend) = 7 (the difference). See also *subtrahend* and *difference*.

$$10 - 3 = 7$$

10: minuend; 3: subtrahend; 7: difference

mixed number

A number with both a whole number part and a fractional part, e.g. $3\frac{1}{2}$.

multiple

A multiple is the product of 2 numbers, e.g. the multiples of 7 are 7, 14, 21, 28 and so on.

multiplicand

A number to be multiplied, e.g. in $6 \times 3 = 18$, 6 is the multiplicand. See also *multiplier*.

$$6 \times 3 = 18$$

6: multiplicand; 3: multiplier

multiplier

The multiplying number, e.g. in $6 \times 3 = 18$, 3 is the multiplier. See also *multiplicand*.

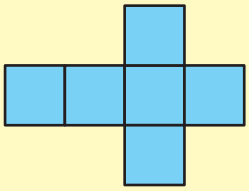
$$6 \times 3 = 18$$

6: multiplicand; 3: multiplier

N

net (open, closed)

A pattern that you can cut out and fold to make a 3-D shape.



numerator

The number above the vinculum in a fraction. See also *denominator*.

*n*th term

An unknown value.

O

ounce

An imperial measure of mass. Symbol: oz.
1 ounce is approximately equal to 28 g. 16 oz = 1 pound.

P

parallelogram

A 2-D shape with 2 pairs of opposite sides that are equal and parallel. A rectangle is a parallelogram with all the angles 90°.

pie chart

A circular chart divided into parts.

plane

A flat surface in 2-D.

pound

An imperial measure of mass. Symbol: lb. 16 oz = 1 pound. 2.2 lb is approximately equal to 1 kg. See also *ounce*.

prime factor

A factor of a number that is also a prime number, e.g. the prime factors of 12 are 2 and 3, since $12 = 2 \times 2 \times 3 = 2^2 \times 3$.

product

The result of multiplying 2 numbers.
The product of 4 and 3 is $4 \times 3 = 12$.

profit, loss

The money made or lost in a financial transaction.

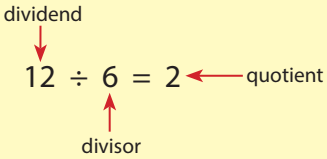
Q

quadrant

One of the 4 quarters formed by the x- and y-axes on a graph.

quotient

The answer to a division calculation,
e.g. in $12 \div 6 = 2$, 2 is the quotient. See also *dividend*.



R

radius

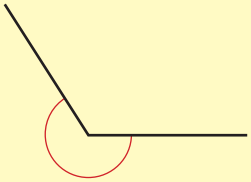
Any straight line segment from the centre of a circle to the edge (circumference). The radius is half of the diameter. See also *diameter*.

ratio

A comparison of values or amounts. There are 12 boys for every 15 girls. The ratio is 12 to 15 or 12:15.

reflex angle

An angle greater than 180°.



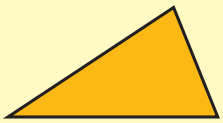
rhombus

A 2-D shape with 4 equal sides, no right-angles and equal opposite angles.

S

scalene triangle

A triangle with no equal sides or angles. A scalene triangle can have a right angle. This is called a right-angled scalene triangle.



statistics

Collecting, representing and interpreting data.

subtrahend

The number that is subtracted from the minuend.

sum

The answer to an addition calculation.
The sum of 4 and 5 is 9. See also *total*.

T

tonne

A metric measure of mass. 1000 kilograms = 1 tonne.

total

The answer to an addition calculation.
The total of 4, 3 and 5 is 12. See also *sum*.

U

unknowns

A symbol for an unknown number, usually a letter.

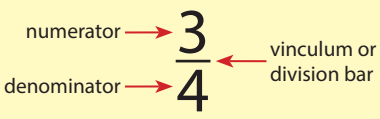
V

variable

A quantity that we do not know. It can change or may take on different values. A variable is often shown by a letter or symbol, e.g. $3y + 4 = 16$.

vinculum

The line that separates the numerator and denominator in a fraction.



volume

The amount of liquid in a container, e.g. 1 litre of water in a 2 l bottle. Measured in millilitres and litres. See also *capacity*.

W

whole-part relationship

Parts of the whole. In the fraction $\frac{2}{3}$, the whole has been divided into 3 equal parts and we are thinking about 2 of those parts. When thinking of an addition calculation, e.g. 54 + 46 = 100, 54 and 46 are the parts and 100 is the whole. There are many whole-part relationships in mathematics.

Y

yard

An imperial unit of length. 1 yard is approximately equal to 90 cm. Symbol: yd. 36 inches = 3 feet = 1 yard. See also *foot, feet* and *inch, inches*.