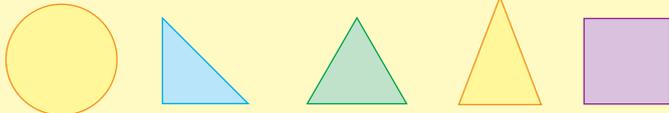


# 3

# Glossary

## 2-dimensional (2-D)

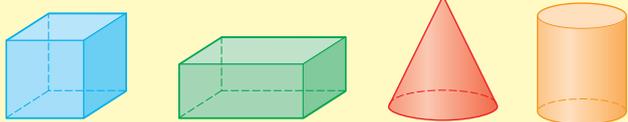


circle right-angled triangle equilateral triangle isosceles triangle square

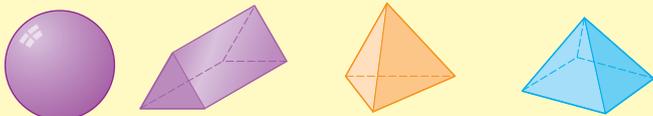


rectangle pentagon hexagon heptagon octagon

## 3-dimensional (3-D)



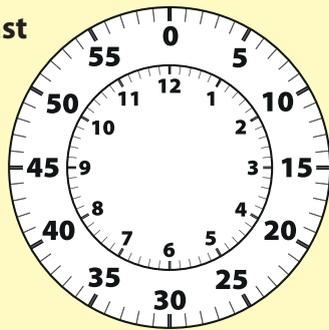
cube cuboid cone cylinder



sphere triangular prism triangular-based pyramid (tetrahedron) square-based pyramid

## 5, 10, 15 ... minutes past

Ways of counting minutes on an analogue clock. The minute hand takes 5 minutes to move between each hour mark on the clock face. See also *analogue clock*.

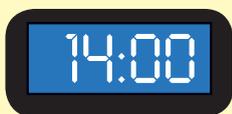


## 12-hour time

Counting hours of the day in 2 blocks of twelve. 12.01-12 noon as a.m. and 12.01-12 midnight as p.m. Often told on a 12-hour clock with hands and known as analogue time.

## 24-hour time

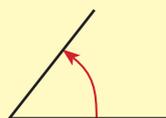
Counting hours of the day from 0-24. Used on digital clocks. 2 p.m. is written as 14:00.



## A

### acute angle

An angle between 0° and 90°. See also *obtuse*, *reflex angle*.



## addend

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

## addition

A mathematical operation combining 2 or more numbers to find a total. Augend + addend = sum (or total).

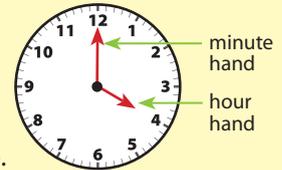
$$\begin{array}{ccc} 3 & + & 5 & = & 8 \\ \uparrow & & \uparrow & & \uparrow \\ \text{augend} & & \text{addend} & & \text{sum/total} \end{array}$$

## a.m.

From Latin ante-meridian, meaning before midday. See also *12-hour time*.

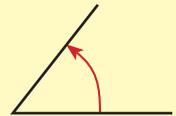
## analogue clock

A dial with hands used to show time. The dial shows 12 hours in a full circle. The minute hand moves 1 complete turn every circle.



## angle

The amount of turn between 2 straight lines that meet at a point. Usually measured in degrees. Symbol: °. See also *acute*, *obtuse*, *reflex angle*.

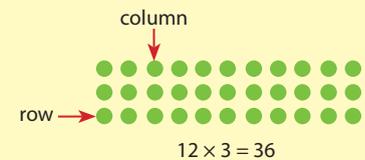


## approximate, approximately

A number that is not exact, e.g. 2028 is approximately 2000. Symbol: ≈.

## 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.



## augend

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

$$\begin{array}{ccc} 3 & + & 5 & = & 8 \\ \uparrow & & \uparrow & & \uparrow \\ \text{augend} & & \text{addend} & & \text{sum/total} \end{array}$$

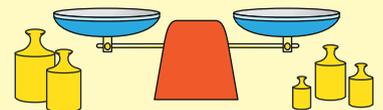
## axis, axes

Horizontal and vertical lines on a graph.

## B

### balance

Things are balanced when both sides have equal value, e.g. 3 + 4 = 7 and 1000 g = 1 kg.



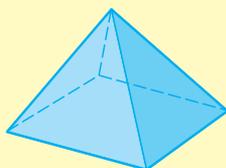
## bar chart

A chart drawn using rectangular bars to show how large each value is.



## base

The flat surface under a 3-D shape, e.g. a square-based pyramid has 1 square base and 4 triangular faces.



## C

### calendar

A list of the days of the year, arranged by month, week and day.

### 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.

### Carroll diagram

A Carroll diagram sorts objects according to a criteria and not that criteria. There can be 2 different criteria but always the criteria and not the criteria, e.g. odd numbers/not odd numbers, multiples of 5/not multiples of 5, dogs/not dogs.

	odd	not odd
< 50	23	18
not < 50	57	92

### Celsius

A scale used to measure temperature. Sometimes called Centigrade. Units are °C.

### centimetre

A unit of length, 1 metre = 100 centimetres. Symbol: cm.

### century

100 years.

### commutative

Addition and multiplication are commutative. It does not matter which way you add, or multiply the answer is always the same. Same answer, different calculation, e.g.  $3 + 4 = 4 + 3$ ,  $3 \times 4 = 4 \times 3$ . But subtraction and division are not commutative, e.g.  $7 - 2 \neq 2 - 7$ ,  $6 \div 2 \neq 2 \div 6$ .

## D

### degree

A unit of temperature. °C for degrees Celsius, though Centigrade is often still used.

### denominator

The number of parts the whole has been divided into. The number underneath the vinculum. Also called the divisor. See also *numerator*.

## diagram

A sketch or accurate drawing of a mathematical shape or problem.

## difference

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

## digit

The symbols 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9. The value of each digit depends on its position, e.g. in 16, the digit 1 represents one ten while the 6 represents six ones.

## digital time

Time displayed as on a digital clock, either as 12-hour or 24-hour time.

## dividend

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

$$\begin{array}{c} \text{dividend} \\ \downarrow \\ 12 \div 6 = 2 \leftarrow \text{quotient} \\ \uparrow \\ \text{divisor} \end{array}$$

## division (on a scale)

The intervals on a scale, on a ruler or a graph axis.

## 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  $12 \div 6 = 2$ , 6 is the divisor. See also *dividend*, *quotient*.

## E

### edge

The line made where 2 faces of a 3-D shape meet. See also *face*, *vertex*.

### eighths

The fraction of a whole obtained when it is cut into 8 equal pieces.

### equivalent

When 2 amounts are the same, but they could look different.  $5 + 15$  is equivalent to 20,  $\frac{1}{2}$  is equivalent to  $\frac{2}{4}$ .

## F

### face

A flat surface on a 3-D shape. See also *edge* and *vertex*.

### factor

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

## frequency table

A table showing how often something occurs.

Travel	Tally	Frequency
Walk		12
Car		9
Bicycle		2
Bus		3
Taxi		2

## G

### gram

Symbol: g. A measure of mass or weight. There are 1000 grams in a kilogram. See also *kilogram*.

### greater than

Also called more than. Symbol: >. Used when comparing 2 numbers or measures, e.g. 10 is greater than 7, or  $10 > 7$ . See also *less than*.

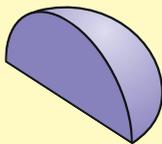
### greatest value, least value

The highest or lowest value that can occur.

## H

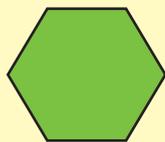
### hemisphere

Half of a sphere.



### hexagonal

Like a hexagon. A 2-D shape with 6 straight sides.



### horizontal

Going from side to side like the horizon. See also *vertical*.

### hundreds boundary

When counting from tens to hundreds, the hundreds boundary is crossed.

## I

### inverse

Addition is the inverse of subtraction, e.g.  $16 + 24 = 40$ ,  $40 - 24 = 16$ . Multiplication is the inverse of division, e.g.  $4 \times 12 = 48$ ,  $48 \div 12 = 4$ .

### irregular

Not regular. A shape with sides and angles that are not equal.

## K

### kilogram

Symbol: kg. A measure of mass or weight. There are 1000 grams in a kilogram. See also *gram*.

### kilometre

A metric measure of distance.  $1 \text{ km} = 1000 \text{ m}$ .

## L

### less than

Symbol: <. Used when comparing 2 numbers or measures, e.g. 7 is less than 10, or  $7 < 10$ . See also *more than*.

### litre

Symbol: l. A measure of capacity.  $1000 \text{ millilitres} = 1 \text{ litre}$ .

## M

### mass

A measure of the amount of matter in an object. Measured in grams (g), kilograms (kg) or tonnes (t).

### measuring cylinder

A graduated cylinder for measuring volume and capacity accurately.

### mental calculation

Doing a calculation in your head, perhaps using informal jottings.

### metre

Symbol: m. A measure of length or height,  $100 \text{ centimetres} = 1 \text{ metre}$ .

### millimetre

A small measure of length.  $10 \text{ mm} = 1 \text{ cm}$ .

### minuend

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

### multiple

A multiple is the product of 2 numbers, e.g. the multiples of 8 are 8, 16, 24, 32, and so on.

### multiplicand

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

### multiplier

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

## N

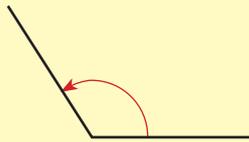
### numerator

The number of parts of the whole required. The number above the vinculum in a fraction. See also *denominator*.

## O

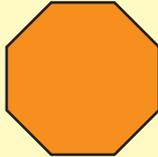
### obtuse angle

An angle between  $90^\circ$  and  $180^\circ$ . See also *acute*, *reflex angle*.



### octagon, octagonal

A 2-D shape with 8 straight sides.



### one hundred less/more

A number one hundred whole units more or less than another number. 900 is a hundred less than 1000 and 100 more than 800.

## P

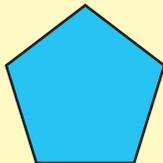
### parallel

Lines that are the same distance apart and never meet.



### pentagon, pentagonal

A 2-D shape with 5 straight sides.



### perimeter

The total distance around the outside of shape.



### perpendicular

Lines that are at right angles to each other. Horizontal lines are always perpendicular to vertical lines.

### polygon

The general name for 2-D shapes with straight sides. Includes triangle (3 sides), quadrilateral (4 sides), pentagon (5 sides) and so on.

### polyhedron

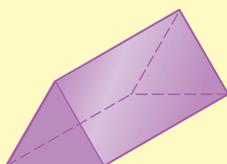
The general name for 3-D shapes with straight sides. Plural polyhedra. Includes tetrahedron, prisms, pyramids, and so on.

### p.m.

From Latin post-meridian, meaning after midday. See also *12-hour time*.

### prism

A 3-D shape with 2 identical and parallel ends, joined by rectangular faces. The cross-section of a prism is always the same as the ends.



## product

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

## Q

### quadrilateral

A 2-D shape with 4 straight sides.



Rectangles, squares and kites are special sorts of quadrilaterals.

### quotient

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

$$\begin{array}{c}
 \text{dividend} \\
 \downarrow \\
 12 \div 6 = 2 \leftarrow \text{quotient} \\
 \uparrow \\
 \text{divisor}
 \end{array}$$

## R

### rectangle

A 2-D shape with 4 straight sides. A square is a regular rectangle and oblong is sometimes known as an irregular rectangle.

### regular

A 2-D shape with all the sides equal length and equal angles.

### remainder

The number left over after a division sum, e.g. in  $13 \div 3 = 4$  remainder 1.

### right angle

A quarter of a full turn.  $90^\circ$ .

### Roman numerals

Numbers used by the Romans. Digits have no place value, e.g. II = 2, VI = 6, LX = 60.

### round up, round down

A method of approximation. 37 rounds up to the nearest 10 so gives an approximation of 40, but 34 rounds down to the nearest 10 so gives an approximation of 30. Digits 4 or less round down and digits 5 or more round up, so 750 to the nearest 100 is 800.

## rule

An instruction for carrying out a mathematical operation or continuing a pattern. It can be written using symbols or words. See also *sequence*.

## S

### second

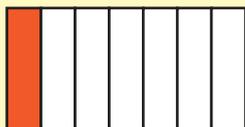
Symbol: s. A measure of time.

### sequence

A set of numbers made by following a given rule, e.g. the multiples of 3 are 3, 6, 9 and so on.

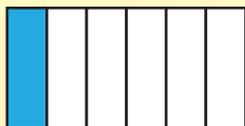
### sevenths

The fraction of a whole obtained when it is cut into 7 equal pieces.



### sixths

The fraction of a whole obtained when it is cut into 6 equal pieces.



## statement

A mathematical sentence, e.g. all even numbers are multiples of 2.

## subtrahend

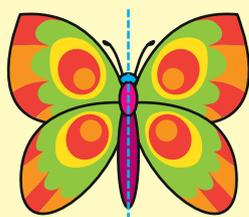
The number that is subtracted from the minuend. See also *difference*, *minuend*.

## sum

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

## symmetry, symmetrical

A figure has line symmetry if it can be folded along a mirror line into 2 identical halves, which are mirror images of each other.



line of symmetry

## T

### tenths

The fraction of a whole obtained when it is cut into 10 equal pieces.

## title

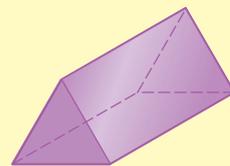
A sentence to describe or explain a chart, graph or diagram.

## total

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

## triangular prism

A 3-D shape with 2 identical and parallel triangular ends, joined by 3 rectangular faces.



## U

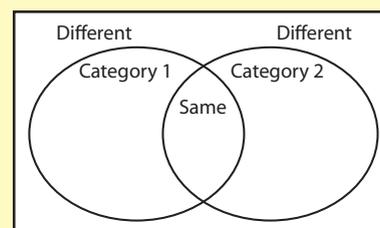
### units

The position in a number where the digit represents units, e.g. in 278 there is a digit 8 in the units place, so there are 8 units.

## V

### Venn diagram

A way of representing information.



## vertex, vertices

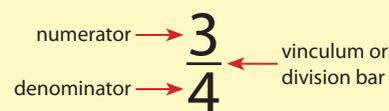
The point where 2 or more lines or edges intersect. See also *face*, *edge*.

## vertical

A line that is perpendicular to a horizontal line. See also *perpendicular*.

## vinculum

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



## 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.

### written calculation

A mathematical operation done formally as a vertical written method.