

Types of number:

odd – ends in 1, 3, 5, 7, 9

even – ends in 0, 2, 4, 6, 8 (is divisible by 2)

factor – divides exactly into a number
eg 5 is a factor of 10

multiple – in the times table of a number
eg 20 is a multiple of 10

square number – can be written as a number multiplied by itself eg 9 is a square number because it can be written as 3×3 .
The first 7 square numbers are 1, 4, 9, 16, 25, 36, 49, ...

prime number – can only be divided by one and itself: 2, 3, 5, 7, 11, 13, 17... are prime

Special words:

sum – add the numbers together

product – multiply the numbers

difference – biggest take away the smallest

estimate – round the numbers first and give an approximate answer

solve – work out the value of the letter

correlation – the relationship between 2 variables, can be **positive**, **negative** or **no correlation**. Draw a line of best fit if correlation is positive/negative.

expand – multiply out brackets $2(x+3)=2x+6$

factorise – put brackets back in $x^2-3x = x(x-3)$

tessellate – fit shapes together with no gaps

Metric units:

Length – use mm, cm, m, km

Area – use mm^2 , cm^2 , m^2 , km^2 , (hectares)

Volume – use mm^3 , cm^3 , m^3 , ml, litres

Mass – use g, kg

Conversions:

1cm = 10mm

1m = 100cm

1km = 1000m

1 litre = 1000 ml

1kg = 1000g

1kg = 2.2 pounds

5 miles = 8 km

Averages:

mode/modal – the most common value or values

median – the middle value when they are in order

mean – add up all the values and divide by the number of terms

range – highest value take away the lowest value

Percentage means “fraction out of 100”

50% = 0.5 = $\frac{1}{2}$ divide by 2

25% = 0.25 = $\frac{1}{4}$ halve then halve again

10% = 0.1 = $\frac{1}{10}$ divide by 10

1% = 0.01 = $\frac{1}{100}$ divide by 100

Key formulae:

Circumference of circle = πd

Area of rectangle = length x width

Area of triangle = base x height $\div 2$

Area of circle = πr^2

Volume of cuboid = length x width x height

Volume of prism = cross-section area x length

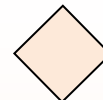
perimeter is the distance round the edge

area is the space inside the shape

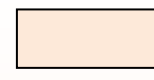
Names of shapes:



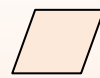
square



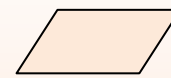
still a square!



rectangle



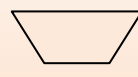
rhombus



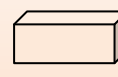
parallelogram



kite



trapezium



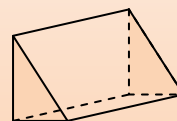
cuboid



cone



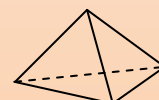
cylinder



triangular prism



square-based pyramid



triangle-based pyramid (tetrahedron)

Angle Rules: Opposite angles are equal

Angles at a point add up to 360°

Angles in a quadrilateral add up to 360°

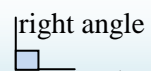
Alternate angles in parallel lines (Z angles) are equal

Corresponding angles in parallel lines (F angles) are equal

Interior angles in parallel lines (C angles) add up to 180°

Angles on a straight line add up to 180°

Angles in a triangle add up to 180°



right angle



acute



obtuse



reflex

BRACKETS

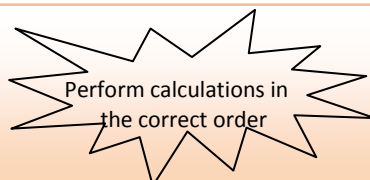
INDICES

DIVISION

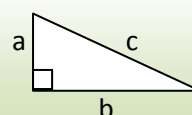
MULTIPLICATION

ADDITION

SUBTRACTION



Pythagoras' theorem



$$a^2 + b^2 = c^2$$