**GCSE Maths – Foundation Tier. LEARN THESE FACTS! You will not be given them in the exam.**

**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 3x3. 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

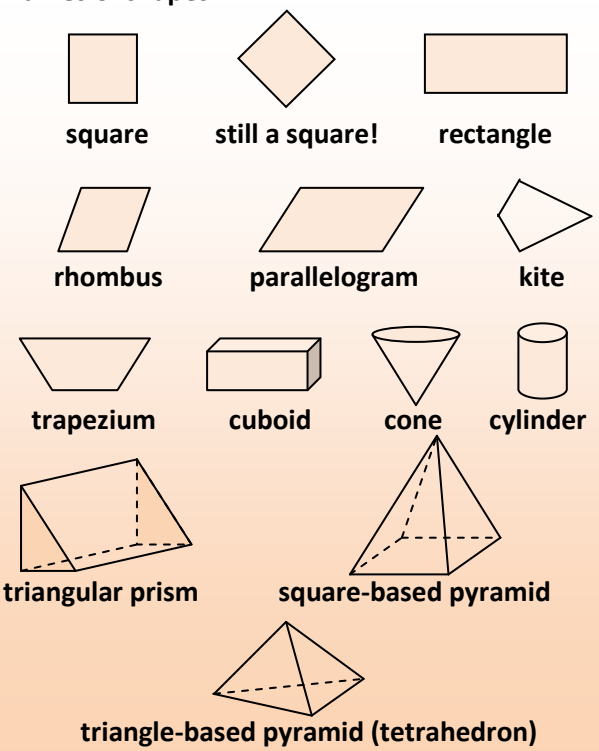
**Metric units:**
**Length –** use mm, cm, m, km
**Area –** use $mm^2$, $cm^2$, $m^2$, $km^2$, (hectares)
**Volume –** use $mm^3$, $cm^3$, $m^3$, ml, litres
**Mass –** use g, kg

| **Conversions:** | 1 litre = 1000 ml |
|---|---|
| 1cm = 10mm | 1kg = 1000g |
| 1m = 100cm | 1kg = 2.2 pounds |
| 1km = 1000m | 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 = ½ ..... divide by 2
25% = 0.25 = ¼ ..... halve then halve again
10% = 0.1 = $^1/_{10}$ ..... divide by 10
1% = 0.01 = $^1/_{100}$ ..... divide by 100

**Names of shapes**:



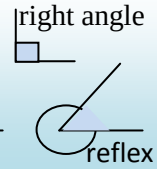

**Key formulae**:
**Circumference of circle** = πd

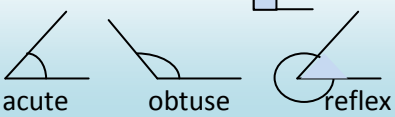
**Area of rectangle** = length x width
**Area of triangle** = base x height ÷ 2
**Area of circle** = $\pi r^2$

**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

**Angle Rules:** Opposite angles are equal
Angles on a straight line add up to 180°
Angles at a point add up to 360°
Angles in a triangle add up to 180°
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°

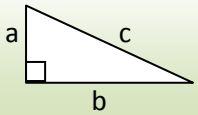



**B**RACKETS
**I**NDICES
**D**IVISION
**M**ULTIPLICATION
**A**DDITION
**S**UBTRACTION

Perform calculations in the correct order

Pythagoras' theorem




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