Maths Homework Help Sheets

How do I do my homework?

These sheets are here to help you to tackle your homework. It is expected that you will **not** use a calculator as you will not be allowed to use one in the SATs test anymore.

SRH

Glossary of terms:

Words for add:	total, sum, add, addition, how many altogether	
Words for take away:	subtract, the difference, between, are left, how many more	
Words for times:	multiply, multiplication, product, how many altogether	
Words for share:	divide, quotient, share, split	
Averages:	Mean average	(add all the numbers up and divide by the number of numbers) eg: 3,6,7,5,4 --> (3+6+7+5+4)/5 = 25/5=5
	Mode average	(which number occurs most often) eg: 5,7,8,6,4,6,4,6,7,7,5,6,7,8 --> Mode is 6 and 7 as both these occur four times.
	Median	(Put numbers in order and it is the middle number(cross numbers out from each end)) eg: 5,7,2,7,4,8,3,7,10 --> ~~2,3,4,5~~,7,~~7,7,8,10~~ (odd number of numbers) eg: 5,7,2,7,4,8,3,7,6,10 --> ~~2,3,4,5~~,6,7,~~7,7,8,10~~ (even number of numbers) --> (6+7)/2 = 13/2 = 6.5 which is the answer.
Other statistics	Set	A group of numbers (often with something in common).
	Maximum	The highest number in a set.
	Minimum	The lowest number in a set.
	Range	Maximum - minimum = range
Real numbers	Numbers that can be placed along a number line. The can be whole numbers or decimal fractions.	
Integers	Whole numbers which includes both positive and negative numbers. eg ..., -7, -6, -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5, 6, ...	
Natural numbers	The set of integers that begin at 1, 2, 3, 4, ... (Note that Natural numbers do not include zero or any minus numbers).	
Rational numbers	Numbers that can be expressed as p/q where p and q are integers.	
Irrational numbers	Numbers that have no repeating decimal component.	

Identity	A number which does not change a particular answer under a specific operation. eg: 1 is the identity for multiplication and division as g×1=g 0 is the identity for addition and subtraction as g+0=g
index	The number of the power. The index is highlighted below. eg: 5^{2}= 5×5 = 25.
base	The number to which the index applies. The base is highlighted below. eg: 5^{2}= 5×5 = 25.
fraction	a number of the form a/b
Numerator	The top number in a fraction
Denominator	The lower number in a fraction
Mixed number	A number consisting of a whole part and a fraction part
Calculating Fractions	Multiplication

$$\frac{a}{b} \times \frac{c}{d} = \frac{a \times c}{b \times d}$$

Division

$$\frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \times \frac{d}{c} = \frac{a \times d}{b \times c}$$

Addition

$$\frac{a}{b} + \frac{c}{d} = \frac{(a \times d)+(b \times c)}{b \times d}$$

Subtraction

$$\frac{a}{b} - \frac{c}{d} = \frac{(a \times d)-(b \times c)}{b \times d}$$

Improper fractions — These are where the number at the top (numerator) is greater than the number at the bottom (denominator).

Something to remember

$$23 = \frac{23}{1}$$

Geometry: There are 360° in a complete turn and 90° in a right angle.

Parallel: A word describing two lines as being the same distance apart along their complete length. Parallel lines never meet. Think of railway lines.

Perpendicular: A word describing two lines as being at right angles to one another.

Triangles: Equilateral triangles have three equal length sides and three angles which each measure 60°.

Isosceles triangles have two sides and two angles that are the same and one that is different.

Scalene triangle have all three sides of different lengths.

Right-angled triangles could be scalene or isosceles triangles. They have one right angle.

Quadrilaterals: Each has four sides and the sum of the internal angles is 360°. There are various forms of quadrilateral:

Rectangle: Quadrilateral with four right angles.

Square: Rectangle with four equal sides.

Oblong: Rectangle with two long sides (which are opposite one another) and two short sides (which are also opposite one another).

Rhombus: A four sides shape where all the sides are the same length. A rhombus has no right angles.

Kite: A quadrilateral with two sets of two adjacent sides of the same length. The diagonals intercept at right angles.

Trapezium: A quadrilateral with two parallel sides and two sides which are not parallel.

Parallelogram: Four sided shape where opposite sides are parallel to one another.