SATs Revision Topics

Number and Place Value			
Read and write numbers to 10,000,000			
Determine the value of digits up to 10,000,000			
Order and compare numbers			
Read Roman numerals up to 1000 (M)			
Count forward and backwards in powers of ten from any number			
Round numbers to nearest 10, 100, 1,000, 10,000 or 100,000			
Use negative numbers in context			
Calculate intervals across zero			

Calculation			
Add whole numbers with more than 4 digits			
Subtract whole numbers with more than 4 digits			
Use rounding to check answers and in context of a problem			
Multiply multi-digit numbers up to 4 digits by a two-digit			
Divide numbers up to 4 digits by a two-digit whole number			
Interpret remainders as whole number remainders, fractions, or by rounding			
Identify common factors, common multiples and prime numbers			
Calculate and identify square and cube numbers			
Order of operations			

Number & Place Value | Calculation | Geometry | Statistics | Algebra | F.D.P | Others

SATs Revision Topics

Geometry - Shape			
Compare and classify geometric shapes based on their properties and sizes			
Identify 3D shapes from 2D representations			
Identify lines of symmetry in 2D shapes			
Estimate and compare acute, obtuse and reflex angles			
Draw given angles, and measure them in degrees (°)			
Angles about a point and a whole turn (360°)			
Angles in a straight line and half turn (180°)			
Use the properties of rectangles to deduce related facts and find missing lengths and angles			
Distinguish between regular and irregular polygons based on reasoning about equal sides and angles			

Geometry – Position and direction			
Plot and describe co-ordinates in all four quadrants			
Plot specified points and draw sides to complete a given polygon.			
Identify, describe and represent the position of a shape following a reflection or translation			

Number & Place Value | Calculation | Geometry | Statistics | Algebra | F.D.P | Others

SATs Revision Topics

Statistics			
Solve comparison, sum and difference problems using information presented in a line graph			
Complete, read and interpret information in tables, including timetables			
Interpret and construct pie charts and line graphs and use these to solve problems			
Calculate and interpret the mean as an average			

Algebra			
Use simple formulae			
Generate and describe linear number sequences			
Express missing number problems algebraically			
Find pairs of numbers that satisfy an equation with two unknowns			
Calculate missing numbers, lengths, coordinates and angles			
Generalisations of number patterns			

Number & Place Value | Calculation | Geometry | Statistics | Algebra | F.D.P | Others

SATs Revision Topics

Fractions. Decimals. Percentages			
use common factors to simplify fractions; use common multiples to express fractions in the same denomination			
compare and order fractions, including fractions > 1			
add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions			
recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number			
multiply simple pairs of proper fractions, writing the answer in its simplest form			
divide proper fractions by whole numbers			
associate a fraction with division and calculate decimal fraction equivalents			
identify the value of each digit in numbers given to three decimal places			
multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places			
multiply one-digit numbers with up to two decimal places by whole numbers			
use written division methods in cases where the answer has up to two decimal places			
solve problems which require answers to be rounded to specified degrees of accuracy			
recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal			
recall and use equivalences between simple fractions, decimals and percentages, including in different contexts			

Number & Place Value | Calculation | Geometry | Statistics | Algebra | F.D.P | Others

SATs Revision Topics

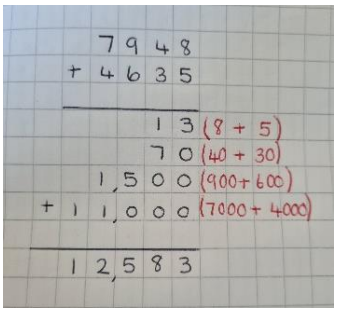
Measurement			
Solve problems involving the calculation and conversion of units of measure			
Use, read, write and convert between standard units, converting measurements of length, mass, volume and time			
Convert between miles and kilometres			
Recognise that shapes with the same areas can have different perimeters			
Recognise when it is possible to use formulae for area and volume of shapes			
Calculate the area of parallelograms and triangles			
Calculate, estimate and compare volume of cubes and cuboids using standard units			

Ratio and Proportion			
Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts			
Solve problems involving the calculation of percentages			
Solve problems involving similar shapes where the scale factor is known or can be found			
Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples			

Number & Place Value | Calculation | Geometry | Statistics | Algebra | F.D.P | Others

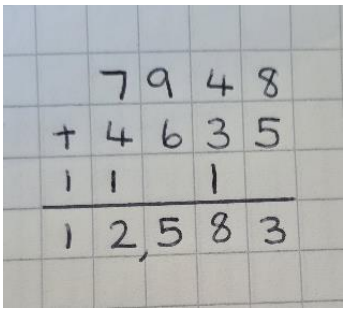
Formal Written Methods

Formal Written Method for addition (expanded)



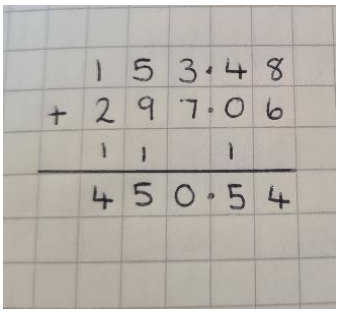
Introduction to the column method through partitioning. This should be introduced alongside the concrete and pictorial representations. Addition starts from the right hand column (in this case the ones).

Formal Written Method for addition



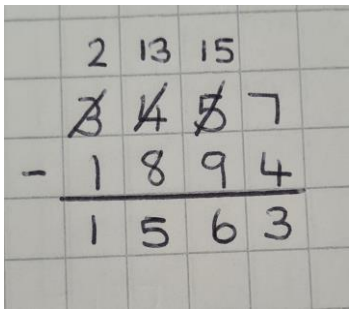
When setting up the formal written method children should leave a line underneath their calculation. This space should be used to record any exchanges that may take place. Missing a line allows children to clearly record their exchanges to be included in the next step.

Formal Written Method for addition involving decimals



When using the formal written method to add decimals children should again set out their calculation ensuring they leave a line below to record any exchanges. Note the decimal point does not have its own column.

Formal Written Method for subtraction

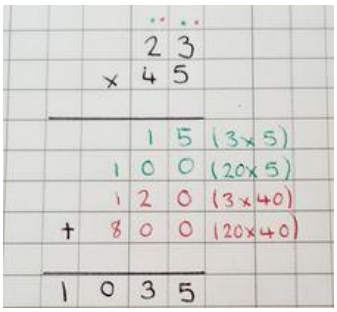


When using the formal written method for subtraction it is important to leave a line above the calculation. This is to allow for any regrouping which may need to take place. Note that this is clearly written above the original number.

Number & Place Value | Calculation | Geometry | Statistics | Algebra | F.D.P | Others

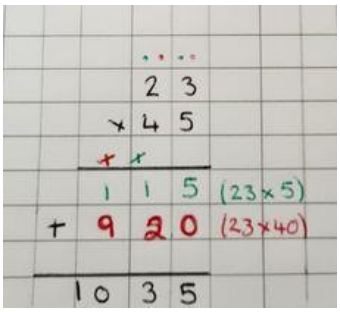
Formal Written Methods

Formal Written Method for multiplication (expanded)



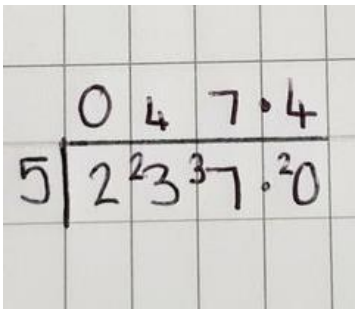
Introduced alongside the grid method to aid understanding. Each multiplication calculation is recorded. Multiplication starts from the right hand column (in this case the ones).

Formal Written Method for multiplication



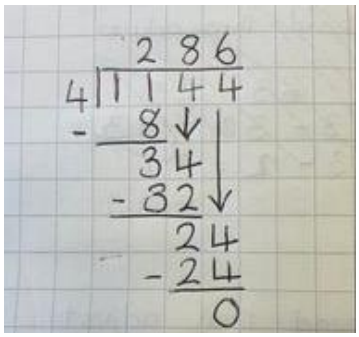
Children use the short written method using exchanging with numbers appropriate to their current level of attainment. The digit exchanged goes underneath the answer. This is introduced alongside the grid method which children should be familiar with from year 4.

Formal Written Method for short division



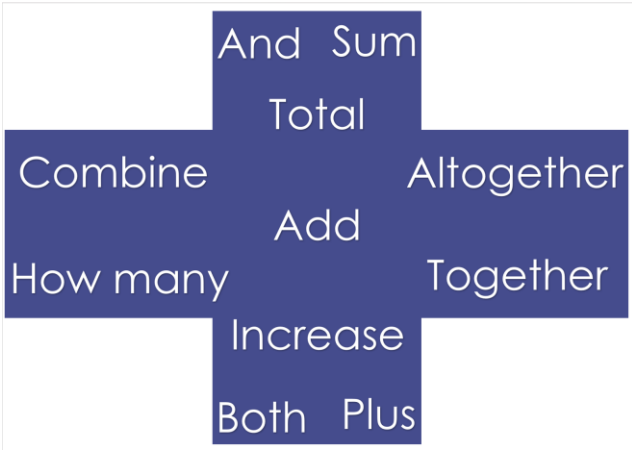
Children consolidate their previous learning of the formal method in year 5. Key vocabulary such as divisor, dividend and quotient are introduced.

Formal Written Method for long division

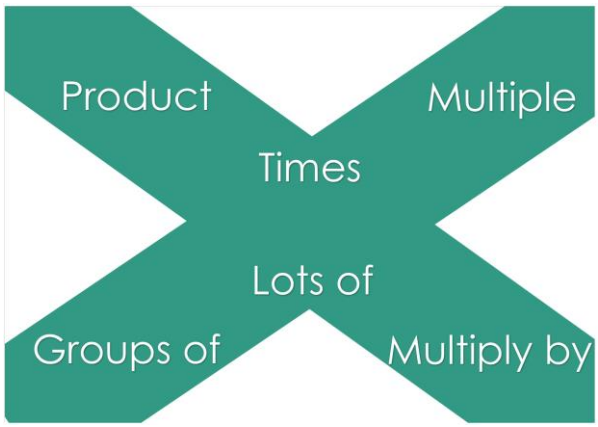


Children are introduced to the formal written method for long division in year 6. The children are supported in this method by DMSB (Divide, Multiply, Subtract, Bring down).

Number & Place Value | Calculation | Geometry | Statistics | Algebra | F.D.P | Others



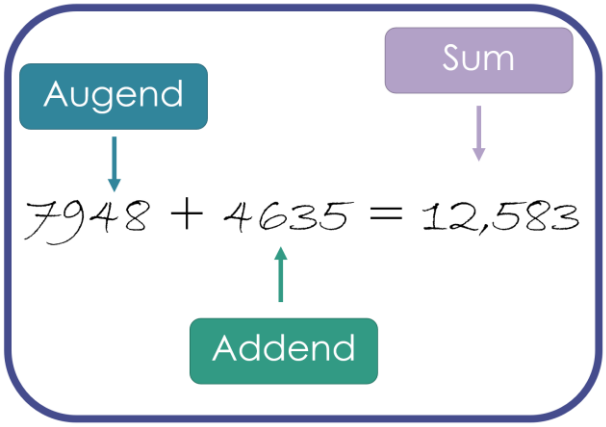
Subtract Difference Remove
Leave Minus Less Deduct
Decrease Fewer Take away

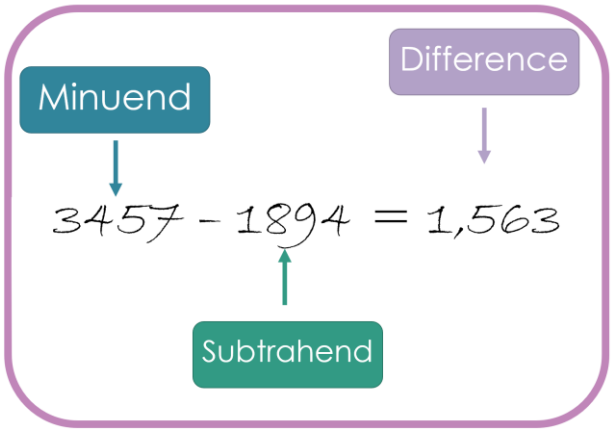


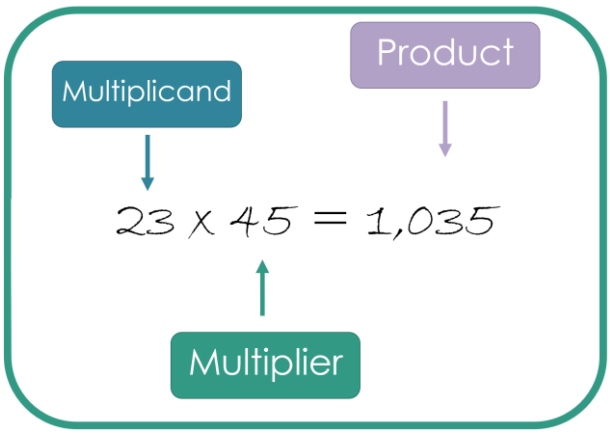
Share

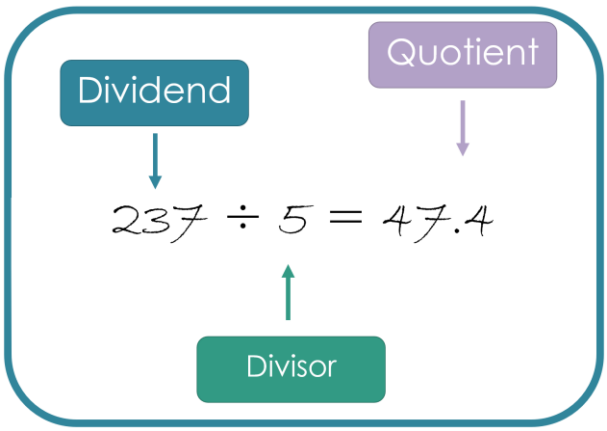
Separate Out of Quotient
Ratio Divide
Average Split Equal groups

Each

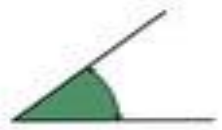
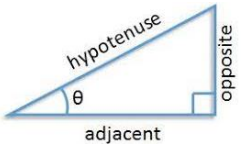
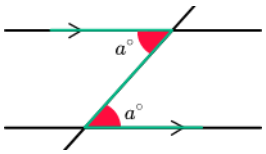
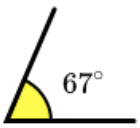
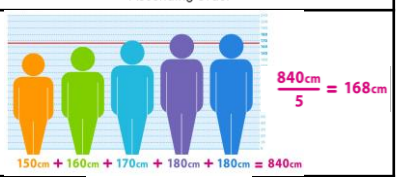
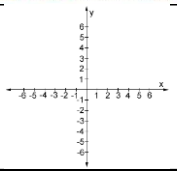
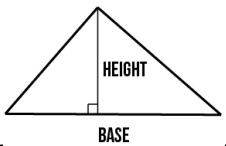
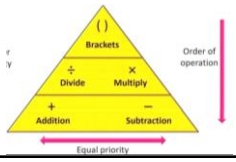
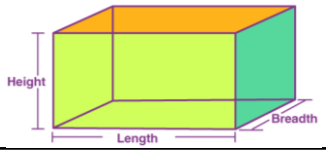






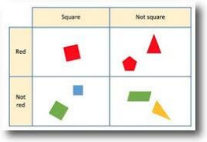
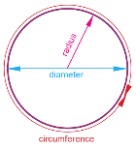
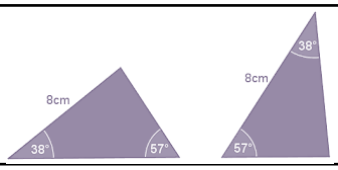
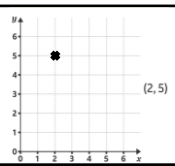
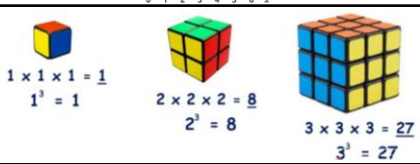
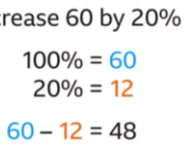
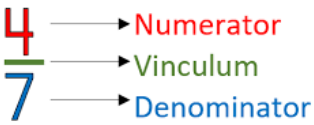


Glossary

Concept	Definition	Diagram
Acute	An angle between 0 and 90 degrees.	
Adjacent	Adjoining (as used to describe lines and angles).	
Alternate	Every other one in a sequence.	
Angle	The number of degrees rotated around a point.	
Area	The amount of space within a perimeter (expressed in square units).	
Ascending order	The arrangement of numbers from smallest to largest.	
Average	A number representing a set of numbers (obtained by dividing the total of the numbers by the numbers itself).	
Axis	Axes are The horizontal number line (x-axis) and the vertical number line (y-axis) on the coordinate plane.	
Base	The line or face on which a shape is standing.	
BIDMAS	The order of operations: Brackets, Indices, Division, Multiplication, Addition and Subtraction	
Breadth	Breadth is another name for width. It is the distance across from side to side.	

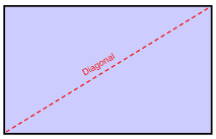
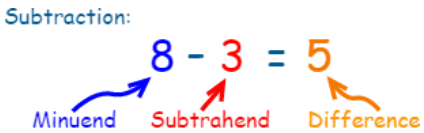
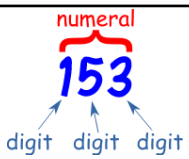
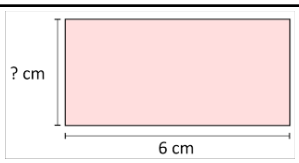
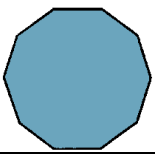
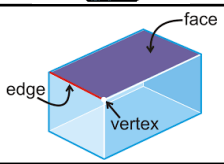
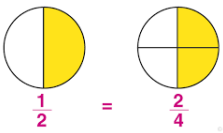
Number & Place Value | Calculation | Geometry | Statistics | Algebra | F.D.P | Others

Glossary

Concept	Definition	Diagram
Capacity	The amount of space in an object (the amount of liquid or air it contains).	
Carroll Diagram	A problem-solving diagram used in classification activities.	
Circumference	The distance around a circle (its perimeter).	
Congruent	Congruent shapes are the same shape and size (equal).	
Consecutive	Consecutive numbers follow in order without interruption.	2 3 4 5 6
Coordinates	Numbers used to locate a point on a grid.	
Cube number	A cube number is the result when a number has been multiplied by itself twice.	
Decimals	Decimals are numbers that have parts that are not whole. Our decimal system splits whole numbers into tenths, hundredths, thousandths, and so on.	
Decreasing	Making something smaller.	
Denominator	The number below the line in a fraction.	
Descending order	The arrangement of numbers from the largest to smallest.	

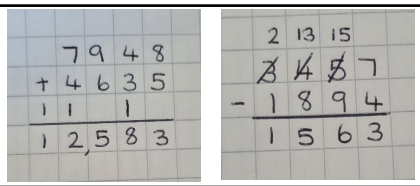
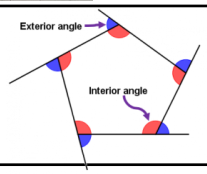
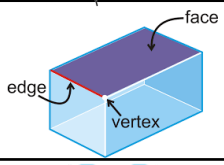
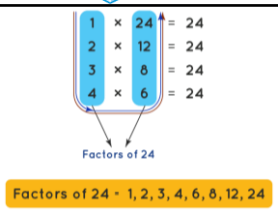
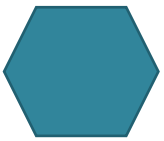
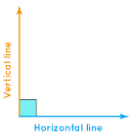
Number & Place Value | Calculation | Geometry | Statistics | Algebra | F.D.P | Others

Glossary

Concept	Definition	Diagram
Diagonal	A straight line connecting two non-adjacent vertices (corners) of a polygon.	
Difference	The interval between two numbers.	
Digit	Any number from 0 to 9 (inclusive).	
Dimensions	The measurements of a shape (i.e. length, width, height).	
Decagon	A ten sided polygon.	
Edge	The intersection of two faces of a three-dimensional object.	
Equals	Exactly the same amount or value	$2 + 7 = 3 \times 3$
Equation	A statement of equality between two expressions.	$2x - 7 = 10$
Equilateral triangle	A triangle with congruent (equal) sides and angles.	
Equivalent	Having the same value.	
Even number	A positive or negative number exactly divisible by 2.	

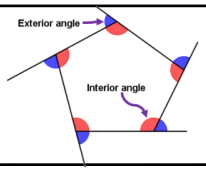
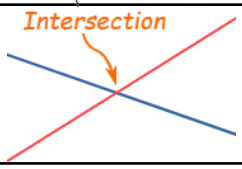
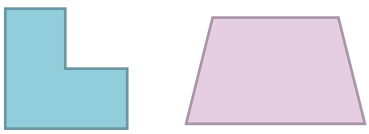
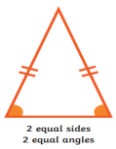
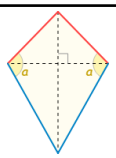
Number & Place Value | Calculation | Geometry | Statistics | Algebra | F.D.P | Others

Glossary

Concept	Definition	Diagram
Exchange or regrouping	Regrouping is the process of exchanging values between the place value columns of a number. Moving digits from one place value column to another.	
Exterior	Outside.	
Face	A plane surface of a three-dimensional object.	
Factor	A number which will divide exactly into another number.	
Fraction	A fraction is a part of a whole. The numerator (top number) tells you how many parts and the denominator (bottom number) tells us how many equal parts the whole has divided into.	
Greater than	The symbol used to represent greater than is an arrow pointing towards the smallest number.	$4 > -3$ 4 is greater than -3
Heptagon	A two dimensional shape with seven sides and seven angles.	
Hexagon	A polygon with six sides.	
Horizontal	Describes a line or plane parallel to the earth's surface.	
Increasing	Making something bigger	Increase 60 by 20% 100% = 60 20% = 12 60 + 12 = 72

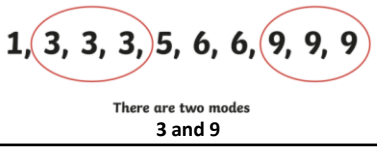
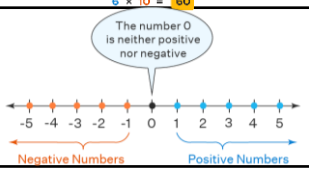
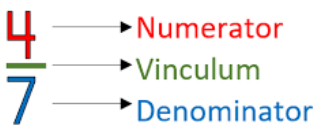
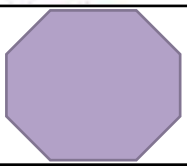
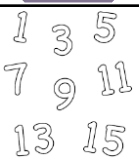
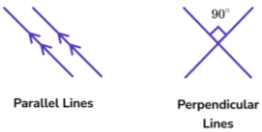
Number & Place Value | Calculation | Geometry | Statistics | Algebra | F.D.P | Others

Glossary

Concept	Definition	Diagram
Improper fraction	A fraction whose numerator is equal to or greater than it denominator.	$\frac{13}{5}$ $\frac{4}{3}$ $\frac{27}{8}$
Integer	A negative or positive whole number.	
Interior	Inside.	
Intersection	The point or line where two lines or two faces meet.	
Intervals	The numbers that come between two particular numbers.	 The intervalsis 5 on this number line.
Irregular shapes	Shapes which do not have all congruent sides and all congruent angles.	
Isosceles triangle	A triangle which has two equal sides of equal length.	
Kite	A quadrilateral that has two adjacent pairs of sides that are equal in length, and at least one pair of opposite angles are equal.	
Less than	An inequality between numbers. The symbol used to represent less than is an arrow pointing towards the smallest number.	$-3 < 4$ -3 is less than 4
Mean	The average of a set of numbers. The sum of the values in a set of data divided by the total number of items in that set.	$2 + 2 + 5 + 6 + 7 + 8 = 30$ $30 \div 6 = 5$ The mean number is

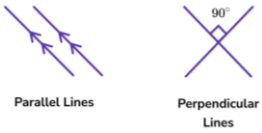
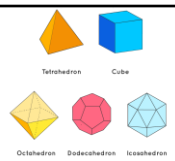
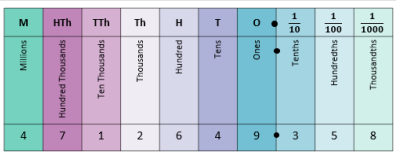
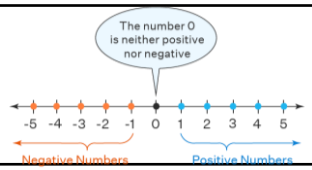
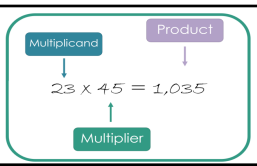
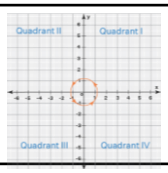
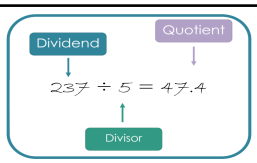
Number & Place Value | Calculation | Geometry | Statistics | Algebra | F.D.P | Others

Glossary

Concept	Definition	Diagram
Median	The middle value of a set of ordered data.	
Mode	The value that occurs the most often in a set of data.	
Multiple	The product of a given number with another factor.	
Negative Numbers	Numbers less than 0.	
Numerator	The number above the line in a fraction.	
Obtuse angle	An angle between 90 and 180 degrees.	
Octagon	A polygon with eight sides and eight angles.	
Odd number	A number that when divided by two leaves a remainder of one.	
Parallel lines	Lines with no common points and always the same distance apart.	
Parallelogram	A four-sided polygon with opposite sides equal and parallel and the opposite angles are equal in size.	

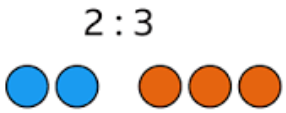
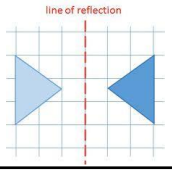
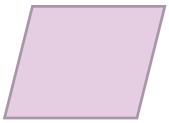
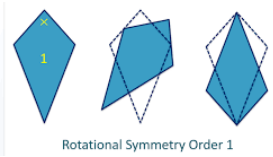
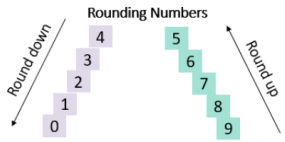
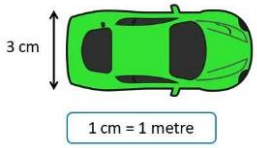
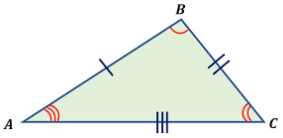
Number & Place Value | Calculation | Geometry | Statistics | Algebra | F.D.P | Others

Glossary

Concept	Definition	Diagram
Perimeter	The length of the distance around the boundary of a shape.	
Perpendicular line	A line at right angles to another line or plane.	
Polyhedron	A three dimensional shape with plane faces.	
Place value	Indicates the position of a numeral (e.g. the place value of the 3 in 738 is 30)	
Positive Numbers	Numbers greater than zero	
Prime number	A number with only two factors, 1 and itself	2,3,5,7,11,13,17,19,23…
Product	The result when two or more numbers are multiplied.	
Proportion	Proportion is a type of relationship between two variables linked by a constant. There are two types, direct proportion and inverse proportion.	
Quadrant	Quadrants are the four regions created by the intersection of the x-axis and y-axis	
Quadrilateral	A four sided shape.	
Quotient	The result when one number is divided by another number.	

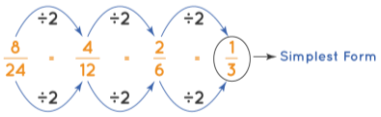
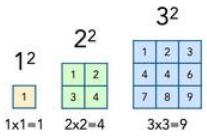
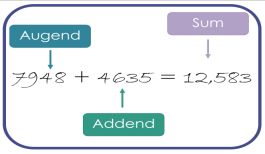
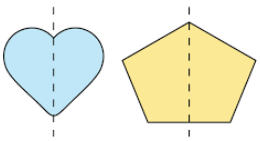
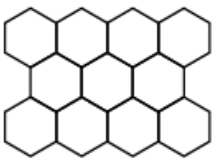
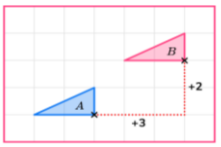
Number & Place Value | Calculation | Geometry | Statistics | Algebra | F.D.P | Others

Glossary

Concept	Definition	Diagram
Ratio	Ratio is a relationship between two or more quantities showing the number of times one is contained within the others.	
Rectangle	A quadrilateral with opposite sides equal and parallel and containing four right angles.	
Reflection	Reflection is a type of transformation that flips a shape in a mirror line (also called a line of reflection) so that each point is the same distance from the mirror line as its reflected point.	
Reflex angle	An angle greater than 180 degrees.	
Rhombus	A parallelogram with congruent sides. Opposite sides are parallel and opposite sides are equal in size.	
Roman numerals	Seven letters are used in combination to write numbers:	I = 1 V = 5 X = 10 L = 50 C = 100 D = 500 M = 1000
Rotational symmetry	A shape is said to have rotational symmetry if it looks the same in different positions when rotated about it's centre.	
Rounding	An approximation used to express a number in a more convenient way.	
Scale	Scale is the ratio that defines the relation between the actual figure and its model. It is used in maps to represent the actual figures in smaller units.	
Scalene triangle	A triangle that has three sides of different length and no equal angles.	

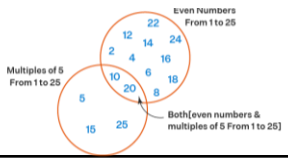
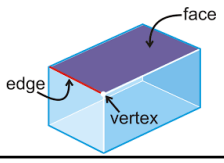
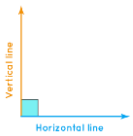
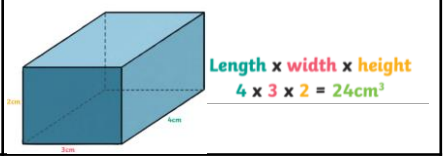
Number & Place Value | Calculation | Geometry | Statistics | Algebra | F.D.P | Others

Glossary

Concept	Definition	Diagram
Simplifying	Grouping similar terms or reducing to simpler but equivalent fractions/ratio.	
Squared	A number squared is a number multiplied by itself.	
Square number	A number whose units can be arranged into a square	1, 4, 9, 16, 25, 36, 49, 64…
Sum	The result when two or more numbers are added together.	
Symmetrical	A shape is symmetrical if it is identical on either side of a line dividing it into two parts.	
Tessellation	Shapes fitted together with a number of exact copies and with no overlaps or gaps.	
Translation	This takes place when a shape is moved from one place to another just by sliding it (without rotating, reflecting or enlarging).	 $\binom{3}{2}$ is 3 right 2 up
Trapezium	A quadrilateral with two parallel sides.	
Triangular number	A number whose units can be arranged into a triangle	1, 3, 6, 10, 15, 21…

Number & Place Value | Calculation | Geometry | Statistics | Algebra | F.D.P | Others

Glossary

Concept	Definition	Diagram
Venn Diagram	A diagram used to show two or more sets of data.	
Vertex	The point at which two or more line segments or two or more edges of a polyhedron meet.	
Vertical line	A line which is at right angles to a horizontal line.	
Volume	The amount of space a 3D shape takes up.	

Number & Place Value | Calculation | Geometry | Statistics | Algebra | F.D.P | Others