



Maths

Year 6

Non-negotiable

Use formal written methods for all four rules.
Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit.
Multiply and divide numbers by 10, 100, 1000 giving answers to 3 decimal places.
Identify the value of each digit in numbers given to 3 decimal places.

Number and place value

N	<u>Assessed</u>	<u>Examples</u>
1	Read and write numbers up to 10,000,000	
2	Know the value of each digit in numbers up to 10,000,000	
3	Order and compare numbers up to 10,000,000	
4	<u>Round any whole number to any degree of accuracy</u>	
5	<u>Use negative numbers in context</u>	
6	<u>Calculate intervals across zero</u>	
7	Solve number and practical problems involving all of the above	

Addition, subtraction, multiplication and division

A	<u>Assessed</u>	<u>Examples</u>
1	<u>Use long multiplication to multiply numbers up to 4 digits by a two-digit whole number</u>	
2	<u>Use long division to divide numbers up to 4 digits by a two-digit whole number</u>	interpret remainders as whole numbers, fractions, or by rounding
3	<u>Show remainders in long division as whole numbers, fractions or by rounding</u>	
4	Perform mental calculations involving mixed operations and large numbers	
5	Identify common factors and prime numbers	
6	Identify common multiples	
7	Understand and use BODMAS to solve calculations	$2 + (3+5) \times 4 - 5 =$ $2 + 8 \times 4 - 5 =$ $2 + 32 - 5 =$
8	<u>Solve addition and subtraction multi-step problems in contexts</u>	
9	Solve problems involving addition, subtraction, multiplication and division	
10	<u>Use estimation to check answers to calculations</u>	
11	Add and subtract negative integers	

Fractions

F	Assessed	Examples
1	Use common factors to simplify fractions	$4/12 = 2/6 = 1/3$
2	Use common multiples to change fractions so they have the same denominator	$2/12, 1/6, 2/3$ $= 1/6, 1/6, 4/6$
3	Compare and order fractions, including fractions greater than 1	$1/4 > 1/5$ $2/3, 5/6, 6/5, 1\ 1/4$
4	Add and subtract fractions with different denominators	$1/6 + 2/3 =$
5	Add and subtract mixed numbers using understanding of equivalent fractions	$1\ 3/4 - 1/2$
6	Multiply simple pairs of proper fractions, writing an answer in its simplest form	$1/4 \times 1/2 = 1/8$
7	Divide proper fractions by whole numbers	$1/3 \div 2 = 1/6$
8	Link fractions with division and calculate decimal equivalents for a simple fraction	$3/8$ is 3 divided by 8 $3/8 = 0.375$
9	Identify the value of each digit to 3dp	
10	Multiply and divide numbers by 10, 100 and 1000 where answers are up to 3dp	$97 \div 1000 = 0.097$
11	Multiply one-digit numbers with up to 2dp by whole numbers	$2.42 \times 2 = 4.84$
12	<u>Use written division methods where the answer has up to 2dp</u>	See route through calculation
13	<u>Solve problems which need answers to be rounded</u>	
14	<u>Recall and use equivalent fractions, decimals and percentages</u>	$3/6 = 1/2 = 0.5 = 50\%$ $2/8 = 1/4 = 0.25 = 25\%$

Ratio and proportion

R	Assessed	Examples
1	Use multiplication and division to calculate missing values in ratio	
2	<u>Find percentages of amounts</u>	
3	<u>Use percentages for comparison</u>	calculate percentages of whole numbers or measures, eg. 15% of 360
4	Solve problems involving similar shapes where the scale factor (the ratio of one shape to another) is known or can be found	
5	<u>Use fractions and multiples to help solve problems</u>	for every egg you need 3 spoonfuls of flour or $3/5$ of the class are boys

Algebra

Al	Assessed	Examples
1	Express missing number problems algebraically	$27 + n = 39$
2	<u>Use simple formulae expressed in words</u>	
3	Generate and describe number sequences and use algebra to show the rule	2, 4, 6, 8, $X_n = 2 \times n$
4	Find pairs of numbers that satisfy number sentences involving two unknowns	
5	Find all possible answers to questions such as $p + y = 9$	$p + y = 9$ $p = 1, y = 8$ $p = 2, y = 7$ $p = 3, y = 6$ etc.

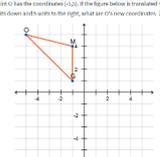
Measurement

M	Assessed	Examples
1	Solve problems involving calculations and converting units of measure (use decimal notation up to 3dp)	
2	Use, read, write and convert between standard units for length, mass, volume and time	a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places
3	Convert from a smaller unit of measure to a large one and vice versa	
4	Convert between miles and kilometres	
5	Recognise that shapes with the same areas can have different perimeters and vice versa	
6	Recognise when it is possible to use formulae for area and volume of shapes	
7	Calculate the area of parallelograms and triangles.	
8	Calculate, estimate and compare volume of cubes and cuboids using cm^3 , m^3 and extending to mm^3 and km^3	

Properties of shapes

Sh	Assessed	Examples
1	Draw 2D shapes using given dimensions and angles	
2	Recognise and describe 3D shapes	
3	Make nets of 3D shapes	
4	Organise shapes based on their properties and sizes	identify parallel planes and symmetry
5	Compare shapes based on their properties and sizes	find unknown angles in any triangles, quadrilaterals, and regular polygons
6	Find unknown angles in triangles, quadrilaterals and regular polygons	
7	Label the radius, diameter and circumference on a circle	
8	Know that the diameter is twice the radius	Use algebra to show relationships $d=2r$
9	Recognise angles where they meet at a point, are on a straight line or are vertically opposite and find missing angles	

Position and direction

P	Assessed	Examples
1	Describe positions on the full coordinate grid (4 quadrants)	
2	Draw and translate simple shapes on the coordinate plane and reflect in the axes	 <p>Point O has the coordinates (0,0). If the figure below is translated 1 unit down, each point in the figure will get its new coordinates 1</p>

Statistics

S	Assessed	Examples
1	Interpret pie charts and line graphs and use to solve problems	
2	Construct pie charts and line graphs	
3	Calculate and interpret mean (average)	