

### MATHEMATICS TARGETS - A YEAR 6 MATHEMATICIAN

#### Page 1

##### **Number, place value, approximation and estimation/rounding**

I can read, write, order and compare numbers up to 10,000,000.

I can determine the value of each digit in numbers up to 10,000,000.

I can round any whole number to a required degree of accuracy.

I can use negative numbers in context, and calculate intervals across zero.

I can solve number problems and practical problems with the above.

##### **Calculations**

I can use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.

I can solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.

I can identify common factors, common multiples and prime numbers.

I can perform mental calculations, including with mixed operations and large numbers.

I can multiply multi-digit numbers up to 4 digits by a 2 digit whole number using the formal written method of long multiplication.

I can divide numbers up to 4 digits by a 2 digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.

I can divide numbers up to 4 digits by a 2 digit number using the formal written method of short division where appropriate.

I can solve problems involving addition, subtraction, multiplication and division.

I can use my knowledge of the order of operations to carry out calculations involving the four operations.

### MATHEMATICS TARGETS - A YEAR 6 MATHEMATICIAN

#### Page 2

##### Fractions, decimals and percentages

I can use common factors to simplify fractions and use common multiples to express fractions in the same denominator.

I can compare and order fractions, including fractions  $>1$ .

I can add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.

I can multiply simple pairs of proper fractions, writing the answer in the simplest form.

I can divide proper fractions by whole numbers.

I can associate a fraction with division to calculate decimal fractions equivalents for a simple fraction.

I can identify the value of each digit to 3 decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to 3 decimal places.

I can multiply 1-digit numbers with up to 2 decimal places by whole numbers.

I can use written division methods in cases where the answer has up to 2 decimal places.

I can solve problems which require answers to be rounded to specified degrees of accuracy.

I can recall and use equivalences between simple fractions, decimals and percentages, including in different contexts

##### Ratio and proportion

I can solve problems involving the relative sizes of two quantities, where missing values can be found using integer multiplication and division facts.

I can solve problems involving the calculation of percentages and the use of percentage comparisons.

I can solve problems involving similar shapes where the scale factor is known or can be found.

I can solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

##### Algebra

I can express missing number problems algebraically.

I can use simple formulae.

I can generate and describe linear number sequences.

I can find pairs of numbers that satisfy an equation with two unknowns.

I can enumerate possibilities of combinations of two variables.

### MATHEMATICS TARGETS - A YEAR 6 MATHEMATICIAN

#### Page 3

##### Measurement

I can use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation of up to 3 decimal places.

I can convert between miles and kilometres.

I recognise that shapes with the same areas can have different perimeters and vice versa.

I can calculate the area of parallelograms and triangles.

I recognise when it is possible to use the formulae for the area of shapes.

I can calculate, estimate and compare volume of cubes and cuboids, using standard units.

I recognise when it is possible to use the formulae for the volume of shapes.

I can solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate.

##### Geometry – properties of shapes

I can compare and classify geometric shapes based on the properties and sizes.

I can describe simple 3D shapes.

I can draw 2D shapes given dimensions and angles.

I recognise and build simple 3D shapes, including making nets.

I can find unknown angles in any triangles, quadrilaterals and regular polygons.

I recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

I can illustrate and name parts of circles, including radius, diameter and circumference.

I know the diameter is twice the radius.

##### Geometry – position and direction

I can draw and translate simple shapes on the co-ordinate plane, and reflect them in the axes.

I can describe positions on the full co-ordinate grid (all four quadrants).

##### Statistics

I can interpret and construct pie charts and line graphs and use these to solve problems

I can calculate and interpret the mean as an average.