

Mathematics Programme of Study - Year 6

I can find equivalent expressions.

I can find pairs of numbers that satisfy number sentences involving two unknowns.

I can express missing number problems algebraically.

I can generate and describe linear number sequences.

I can use simple formulae.

Algebra

I can calculate intervals across '0' when using negative numbers.

I can use negative numbers in context.

I can solve number problems and practical problems.

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

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

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

Number & Place Value

I can use estimation to check answers to calculations and determine an appropriate degree of accuracy.

I can solve problems using any operation. +, x, -, ÷.

I can solve addition and subtraction multi-step problems in different contexts.

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

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

I can calculate mentally, including with mixed operations and large numbers.

I can interpret remainders as whole number remainders, fractions or by rounding.

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

I can divide up to 4 digits by a 2-digit whole number using the formal written method of long division.

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

Addition, Subtraction, Multiplication and Division

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

I can x1-digit numbers with up to 2 decimal places by whole numbers.

I can x and ÷ numbers by 10, 100 and 1000 where the answers are up to 3 decimal places.

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

I can identify the value of each digit in numbers given to three decimal places.

I can divide proper fractions by whole numbers.

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

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

I can recall, use and calculate equivalences between simple fractions, decimals and percentages.

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

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

Fractions, Decimals and Percentages

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

I can solve problems involving the calculation of percentages of whole numbers or measures such as 15% of 360.

I can use percentages for comparison.

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

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

Ratio and Proportion

I can calculate, estimate and compare volume of cubes and cuboids using standard units, including cm^3 and dm^3 , and extending to mm^3 and km^3 .

I recognise when it is necessary to use the formulae for area and volume of shapes.

I can calculate the area of parallelograms and triangles.

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

I can convert between miles and kilometres.

I use, read, write and convert between standard units of measure of length, mass, volume and time.

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

Measurement

I know that the diameter of a circle is twice the radius.

I can draw 2-D shapes using given dimensions and angles.

I can draw and translate simple shapes and reflect them in the axes.

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

I can find unknown angles, where they meet at a point, are on a straight line and are vertically opposite.

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

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

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

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

Geometry

I can use knowledge of place value and related calculations.

I can count on and back in minutes and hours, across 60, and in all time formats.

I can find + and - facts for multiples of 10 to 1000 and decimal numbers.

I know what must be added to a decimal (2d.p.) to make the next whole number.

I can interpret pie charts and line graphs to solve problems

I can calculate and interpret the mean as an average.

I can construct line graphs.

I can interpret line graphs.

I can construct pie charts.

I can interpret pie charts.

Statistics

I can count on or back in 100s, 10s, 1s, 1/10 and 1/100.

I can use partitioning to divide tens and ones separately.

I can use knowledge of equivalence between percentages and decimals and fractions.

I can multiply pairs of 2 digit numbers.

I can + and - pairs of decimals.

I can scale up and down using known facts.

I can simplify fractions by cancelling.

I can find multiples of 10% of a number.

I can x and ÷ 2digit decimals.

I can double decimals with units and tenths.

I can divide a 2 digit number by a 1 digit number.

I know square numbers to 12x12.

Mental Strategies