

## Mathematics Assessment Criteria: Year 6 denotes MET + Mastery Indicators

Year 6 Stage 1	Year 6 Stage 2	Year 3 Stage 3 MET
I can read and write numbers up to 10 000 000 (ten million)	I can order numbers up to 10 000 000	I can compare numbers up to 10 000 000 and determine the value of each digit
I can order negative numbers on a numberline	I can calculate intervals involving negative numbers across zero e.g. the interval between <b>-6</b> and <b>7</b> is 13	I can solve problems involving negative nunbers in context <i>e.g. temperature difference, profit/loss</i>
I can round any whole number accurately to 10 000	I can round any whole number accurately to 100 000	I can round any whole number accurately to 1 000 000
I can solve number problems that involve rounding and place value	I can practical problems that involve place value & rounding	I can create and solve number and practical problems that involve place value & rounding
I can round answers to the nearest 10, 20, 50 or 100	I can estimate the answer to a calculation problem and determine, in the context of a problem, a degree of accuracy	I can perform mental calculations (+ -), including with mixed operations and large numbers
I can multiply <b>ThHTO x TO</b> using long multiplication	I can divide <b>ThHTO</b> ÷ <b>TO</b> using long division with remainders $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	I can divide <b>ThHTO</b> ÷ <b>TO</b> using long division interpreting remainders as decimals  1 5 4 3 2 + 0 - 3 0 0 1 3 1 2 - 1 1 2 0
I can divide <b>HTO</b> ÷ <b>TO</b> using short division	1 2 0	1 2 0 1 2 0 0
I can multiply <b>0.th x 0</b> <i>e.g.</i> £1.42 x 2 = £2.84	I can divide <b>ThHTO</b> ÷ <b>TO</b> using long division, interpreting remainders as fractions <i>e.g.</i> $432 \div 15 = 28\frac{12}{15}$ or $28\frac{4}{5}$ or by rounding depending on the context	I can use a written division method in cases where the answer has up to two decimal places
I can perform mental calculations with mixed operations e.g. (12 x 6) + (8 x 7)	I can perform mental calculations with mixed operations and larger numbers <i>e.g.</i> (54 x 8) - 222	I can estimate to check answers to calculations and determine in the context of a problem, an appropriate degree of accuracy
I can identify <b>common factors</b> of two numbers <i>e.g. 5 and 7 are both common factors of 35 and 105</i>	I can identify <b>common multiples</b> of two numbers <i>e.g. common multiples of</i> <b>4</b> <i>and</i> <b>6</b> <i>are</i> 12, 24, 36	I can identify common prime numbers
I can solve multi-step problems in contexts involving addition and subtraction, deciding which operations and methods to use and why	I can solve problems that involve all four operations	I use my knowledge of the <i>order</i> of operations to carry out calculations involving the four operations $e.g. (8-3) + 5 \times 6 = 35$
I can multiply and divide decimal numbers by 10, 100, 1000 giving answers to three decimal places e.g. $23.6 \div 1000 = 0.024$	I can compare fractions with different denominators using < > = symbols	I can compare and order fractions with different denominators, including those greater than 1
I can add fractions with different denominators and mixed numbers using equivalent fractions to help e.g. $\frac{1}{3} + \frac{1}{4} = \frac{7}{12}$	I can use <b>common factors</b> to simplify fractions e.g. $\frac{18}{30}$ simplifies to $\frac{3}{5}$ as 6 is a common factor	I can use <b>common multiples</b> to express fractions in the same denomination $e.g.$ $\frac{1}{2} + \frac{1}{8} = \frac{5}{8}$
I can subtract fractions with different denominators and mixed numbers using equivalent fractions to help e.g. $\frac{1}{3} - \frac{1}{4} = \frac{1}{12}$	I can multiply simple pairs of proper fractions e.g. $\frac{1}{4}$ $\times$ $\frac{1}{2} = \frac{1}{8}$ writing the answer in its simplist form	I can divide proper fractions by whole numbers <i>e.g.</i> $\frac{1}{3} \div 2 = \frac{1}{6}$
I understand how fractions link to division <i>e.g.</i> $\frac{2}{5}$ <i>is</i> $2 \div 5$	I can calculate decimal equivalents for a simple fraction e.g. $\frac{3}{8} = 0.375$	I can find percentages of quantities
I know the fraction, decimal and percentage equivalents for all halves, quarters, fifths and tenths	I know the fraction, decimal and percentage equivalents for all <b>sixths</b> and <b>eighths</b> $e.g. \frac{5}{8} = 0.625 = 62.5\%$	
I can compare relative proportions by comparing the <i>parts to the</i> whole ["in every"] e.g. 3 red marbles in a bag of 10 compared to 7 red marbles in a bag of 20.	I can solve problems with simple ratios ["for every"] e.g. share 10 sweets in the ratio 2:3	I can solve problems involving calculation of percentages <i>e.g.</i> 15% of 360 for a pie chart
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 <i>e.g.</i> $\frac{3}{5}$ of the class are boys	



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I can use simple formulae e.g. A = I x b to calculate area of a rectangle	I can generate and describe linear number sequences e.g. $2n + 1 = 1, 3, 5, 7, 9$	I can enumerate possibilities of combinations of two variables	
I can use formulae e.g. $a + b + c = 180^{\circ}$ to calculate angles of a triangle	I can express missing number problems algebraically e.g. $5 \times 2 = 35$ can be expressed as $5n = 35$	I can find pairs of numbers that satisfy an equation with two unknowns $e.g.$ $x + y = 13$	
I can solve problems and convert between smaller and larger units of length using decimal notation to 3dp (decimal places) <i>e.g.</i> 23.4cm = 0.234m	I can solve <b>problems and</b> convert between smaller and larger units of mass using decimal notation to 3dp (decimal places) <i>e.g. 2.045kg</i> = 2045g	I can problems and convert between smaller and larger units of volume using decimal notation to 3dp (decimal places) e.g. 4302ml = 4.302l	
I can convert between miles and kilometres using the approximate equivalence of 1 mile = $1.6 \text{ km}$	I can convert between smaller and larger units of time remembering to work in base 60 <i>e.g.</i> 145 minutes = 2hrs 25mins	I can construct line graphs to show conversions between units e.g. miles to kilometres, kilograms to pounds	
I can calculate the <b>area</b> of <b>rectangles</b> using A = I x b	I can recognise that shapes with the same areas can have different perimeters and vice versa.	I can calculate the <b>area</b> of <b>triangles</b> and <b>parallelograms</b> by relating them to rectangles	
I can calculate the <b>volume</b> of a <b>cuboid</b> using V = a x b x c	I can estimate the <b>volume</b> of a <b>cube</b> or <b>cuboid</b> in cm <sup>3</sup> and m <sup>3</sup>	I can compare the <b>volume</b> of <b>cubes</b> and <b>cuboids</b> in cm <sup>3</sup> and m <sup>3</sup>	
I can solve problems involving metres per second	I can solve problems involving miles per hour		
I can draw 2-D using given dimensions and angles	I can label my 2-D shape drawings using correct notation		
I can construct and name 3-D shapes using resources	I can construct nets for simple 3-D shapes <i>e.g. cubes, pyramids, prisms</i>		
I can compare and classify geometric shapes based on their properties	I can find unknown angles in any triangle using $a = 180 - (b + c)$	I can find unknown angles in any quadrilateral using $a = 360 - (b + c + d)$	
I can illustrate and name parts of circles including radius, diameter and circumference	I know that the diameter of a circle is twice the radius	I can use $d = 2 x r$ to help calculate lengths of parts of circles	
I can identify angles where lines meet at a point	I can annotate and calculate any angles on a straight line knowing that they total 180°	I can use knowledge of angles of straight lines, triangles and complete turns to calculate missing angles	
I can use <b>co-ordinates</b> to describe positions in all <b>four quadrants</b> of a grid	 I can draw and <b>translate</b> simple shapes on the coordinate plane, and reflect them in the axes	I can predict missing <b>co-ordinates</b> of rectangles, parallelograms and rhombuses using known properties of shale	
I can calculate and interpret the <b>mean average</b> of a set of data	I can interpret and construct pie charts and line graphs	I can use pie charts and line graphs to solve problems	

<sup>\*</sup>up to ten multiples of the number