

Assessment ladder

Maths - Year 7

	HT1	HT2	HT3	HT4	HT5	HT6
Exceeding	Multiply a 2 x 3 Digit number in context Identify a HCF and LCM	Interpret and comment on averages and their relevance. Calculate averages from a Stem and Leaf Diagram. Identify the centre of rotation	Complete more complex expressions and complete substitution within those expressions.	Use a variety of angle facts to solve geometric problems. Work with complex sequences including quadratics sequences.	Work with all types of probability diagrams. Identify and construct congruent triangles.	Calculate area and perimeter of a variety of shapes including circles.
Securing	Solve multiplication problems using logic to identify the required process and produce an appropriate solution	Interpret and construct Pie Charts. Calculate more complicated averages, solve logic problems using averages. Identify order of rotation and rotate a shape around the origin	Solve logic problems using averages. Complete substitution with multiple variables.	Use angle facts to solve more complex angle problems. Work with more complex sequences and nth terms to generate sequences.	Calculate the probability of multiple outcomes in combined events. Use various probability diagrams. Use standard ruler and compass constructions.	Round numbers to an appropriate degree of accuracy without prompt. Work with compound shapes to calculate are and perimeter.
Demonstrating	Identify the factors or multiples of an appropriately challenging numbers or numbers.	Add, subtract and round numbers with a given number of decimals. Interpret and use a Frequency table. Calculate simple averages. Reflect shapes in a given line.	Apply the four rules of number including negatives to all values. Calculate more difficult averages. Creating simple expressions. Completing basic substitution.	Use a wide variety of angle facts to solve problems. Multiply fractions and simplify where necessary. Find the nth term of a sequence.	Calculate percentages of a given number. Convert between FDP where needed. Calculate the probability of a given outcome. Work with various types of angles.	Use division fluently, including negative and decimal division. Understand the use of significant figures and round to a given number of S.F. Understand what is meant by compound shapes.
Approaching	Multiply two-digit numbers in context. Add and subtract whole numbers in context. Round to the nearest whole number. Identify co-ordinates in all quadrants.	Add, subtract and round numbers with two decimals. Interpret pictograms. Identify the various averages and the range. Identify and draw lines of symmetry in more complex shapes.	Apply the four rules of number including negatives to values from -99 to 99. Calculate simple averages . Combine multiple like terms (i.e $2a + 3a + 2b + 5b$)	Identify equivalent fractions. Use more angle facts to calculate missing angles and solve problems. Work with more complex sequences including negative number sequences.	Convert simple fractions to percentages. Calculate more complex percentages using a calculator. Understand probability in terms of FDP. Identify angles in quadrilaterals.	Divide 2 digit numbers by 2 digit dividers. Round decimal numbers to a given number of decimal places. Understand area formulae of basic shapes and apply as necessary.
Working towards	Multiply single digit numbers in context. Add and subtract whole numbers up to 99 in context. Round to the nearest 10 or 100. Identify first quadrant co-ordinates.	Add, subtract and round numbers with one decimal. Interpret basic bar charts. Identify lines of symmetry in basic shapes	Add and Subtract single digit numbers involving negatives. Multiply single digit numbers using negatives Identify the various averages and the range. Combine single like terms ($a + a$ or $3a + 2a$)	Identify parts of a fraction and start to work with them including finding basic equivalent fractions. Identify basic angles facts to calculate missing angles. Continue a sequence and find a term to term difference.	Be able to compare fractions and percentages to find equivalencies. Calculate basic percentages including 50%, 10% and 1% of a given number. Describe probabilities of events in words. Understand angles in a triangle sum to 180.	Use basic division strategies. Round numbers to 1 decimal place. Understand what is meant by perimeter and area and use squared paper to calculate them from basic shapes.

Assessment ladder

Maths - Year 8

	HT1	HT2	HT3	HT4	HT5	HT6
Exceeding	Calculate missing angles in complex problems involving parallel lines, to a high degree of accuracy.	Apply the four rules of number to fractions consistently, using mixed numbers and improper fractions	Identify the equation of a straight line.	Enlarge using fractions. Enlarge using negatives.	Calculate the volume and surface area of a variety of shapes, including shapes that involve circles.	Work with plans and elevations of more complex shapes.
Securing	Apply BIDMAS correctly with a full range of operators. Identify the rule for a multi-step linear sequence. Identify missing angles in basic problems with parallel lines.	Apply the four rules of number to fractions consistently. Interpret and comment on averages and their relevance	Calculate perimeter of a compound shape involving circles. Measure a bearing of one point from another	Share using a 3-part ratio. Calculate amounts shared and difference using a given ratio. Enlarge a shape from a given point. Calculate more complex combined event probability.	Work with basic laws of indices. Work with special sequences including Fibonacci sequences. Draw and identify the nets of 3D shapes.	Work with more complex percentage increase and decrease in context. Identify plans and elevations of given shapes.
Demonstrating	Solve multiplication problems using logic to identify the required process and produce an appropriate solution. Be able to apply the four rules of number to negatives	Solve equations with unknowns on both sides. Plot and read scatter graphs accurately. Expand brackets correctly. Multiply fractions accurately.	Estimate Bearings to a reasonable degree of accuracy. Plot a straight-line graph from a linear function. Multiply and divide decimals accurately. Calculate circumference of a circle	Calculate basic combined events probability. Share using a basic ratio. Rotate an object around a given point. Enlarge a shape	Work comfortably with index notation. Calculate the nth term of a sequence. Calculate the area of a variety of shapes. Calculate the volume and surface area of basic shapes.	Use grouped frequency tables. Use percentage increase and decreases when required.
Approaching	Identify the factors or multiples of an appropriately challenging numbers or numbers.. Be able to multiply and subtract negative numbers. Find missing angles in basic polygons.	Solve two step equations accurately. Calculate averages in context. Identify more complex equivalent fractions Plot a basic stem and leaf diagram	Apply BIMAS correctly with the four rules of number	Expand a single bracket correctly. Calculate simple probability	Calculate the area and perimeter of basic shapes including compound shapes made from rectangles. Start to understand the algebraic principles involved in sequences. Identify the principles of 3D shapes.	Work with a variety of frequency tables. Work with more complex conversions between FDP.
Working towards	Multiply two-digit numbers in context. Add and subtract whole numbers in context. Be able to add and subtract single digit negative numbers. Identify the names of basic polygons	Collect like terms accurately. Solve one step equations. Calculate simple averages. Find basic equivalent Fractions	Complete basic substitution. Add and subtract numbers with two decimals.	Simplify a given ratio. Identify a basic probability (likely, unlikely etc.)	Write numbers using index notation. Count squares to calculate basic area. Continue a sequence and find a term to term difference	Design and use basic data collection sheets. Construct and interpret basic frequency tables. Convert between basic FDP. Identify a cuboid and calculate its volume.

Assessment ladder

Maths - Year 9

	HT1	HT2	HT3	HT4	HT5	HT6
Exceeding	Identify the y-intercept and gradient of a given straight line graph. Calculate using standard form.	Solve more complex Pythagoras problems. Solve complex reverse percentage problems.	Work with the cumulative frequency of a data set.	Calculate the roots and turning point of quadratic and cubic graphs.	Solve simultaneous equations graphically. Solve more complex Loci problems	Calculate missing angles in right angle triangles using trigonometric ratios. Estimate the probability of a given event or events.
Securing	Construct a straight-line graph from its equation. Identify the y-intercept and gradient of a given equation. Convert numbers between ordinary form and standard form.	Use and re-arrange Pythagoras theorem as necessary to solve problems. Calculate percentage change of a given problem. Understand basic reverse percentage problems.	List values represented by given inequalities. Calculate angles in parallel lines. Complete more complex prim factorisation.	Calculate the nth term of a quadratic sequence. Generate co-ordinates and plot graphs of quadratic and cubic functions.	Write and solve more complex simultaneous equations. Approximate calculations. Construct simple Loci.	Solve direct and inverse proportion problems. Identify what is meant by similarity mathematically. Calculate missing side lengths in right angle triangles using trigonometric ratios.
Demonstrating	Produce a table of values to give coordinates for a straight-line graph from its equation. Start to work with the equation $y=mx+c$. Interpret grouped frequency tables. Calculate the area of a circle.	Solve equations involving brackets. Simplify expressions including index notation. Use Pythagoras theorem to solve simple triangle problems. Work with more complex percentage problems.	Solve inequalities. Calculate interior and exterior angles in polygons. Understand basic prime factorisation.	Continue a sequence given its nth term. Generate co-ordinates and plot a straight-line graph. Calculate the surface area and volume of a variety of prisms.	Construct perpendicular and angle bisectors. Construct triangles accurately. Solve simple simultaneous equations. Measure and draw bearings accurately. Understand upper and lower bounds.	Mathematically describe the different types of transformation. Identify mirror lines graphically. Understand and solve proportion problems.
Approaching	Interpret and construct more complex real-life graphs. Plot given coordinates which lead to a straight line. Interpret frequency tables and scatter diagrams. Calculate the circumference of a circle. Find the area and perimeter of compound shapes.	Expand brackets. Solve basic one and two step equations. Calculate the area of a circle. Convert more complex numbers between fractions, decimals, and percentages. Increase and decrease a given amount by a given percentage.	Solve equations with unknowns on both sides. Work with and solve basic inequalities. Identify and calculate missing angles in triangles and quadrilaterals. Draw a stem and leaf diagram accurately. Understand and calculate using index notation.	Calculate the nth term of a sequence. Identify the gradient from the equation of a straight line. Calculate the surface area of cuboids and triangular prisms. Calculate the volume of basic cuboids.	Round numbers to an appropriate degree of accuracy. Use both metric and imperial measurement as appropriate and convert accurately between them. Measure simple bearings accurately. Work with scale drawings.	Share a quantity into a 3 or more part ratio. Enlarge a shape by a given scale factor. Rotate a shape around a given point. Reflect a shape in a given mirror line.
Working towards	Read and interpret simple real-life graphs. Plot given coordinates accurately. Construct frequency tables and scatter diagrams. Work with area and perimeter of simple shapes.	Expand simple brackets accurately. Convert between fractions, decimals, and percentages. Work with basic percentages.	Solve one and two step equations. Identify different triangles and quadrilaterals. Understand what is meant by index notation.	Continue a given sequence. Find the term to term difference of a given sequence. Identify the y-intercept of the equation of a straight line. Calculate the area of rectangles and triangles.	Round decimal numbers to 1, 2 and 3 decimal places. Round numbers to 1, 2 and 3 significant figures. Convert basic measurements between metric and imperial units.	Simplify rations. Share a quantity into a simple given ration. Identify the different types of transformation that can occur to shapes.