

Level	Obj No	Maths - Number	Started (/)	Completed (X)	Level Achieved
		Integers, Powers and Roots			
Level 1	1	Calculate factors and multiples.			1 2 3 4 5 6 7 8
	2	Understand and identify prime numbers to 100.			1 2 3 4 5 6 7 8
	3	Express numbers as products of their prime factors.			1 2 3 4 5 6 7 8
	4	Recognise square and cube numbers and calculate their roots.			1 2 3 4 5 6 7 8
Level 2	5	Calculate HCF and LCM of pairs of numbers.			1 2 3 4 5 6 7 8
Level 3	6	Use index notation for positive integer indices.			1 2 3 4 5 6 7 8
	7	Know and use the index laws for multiplication and division of positive integer indices.			1 2 3 4 5 6 7 8
	8	Find the reciprocal of a number.			1 2 3 4 5 6 7 8
Level 4	9	Know that $(a^b)^c = a^{bc}$			1 2 3 4 5 6 7 8
	10	Use index notation for negative integer indices.			1 2 3 4 5 6 7 8
	11	Convert between ordinary and standard index form.			1 2 3 4 5 6 7 8
Level 5	12	Know that $n^{1/2} = \sqrt{n}$ and $n^{1/3} = \sqrt[3]{n}$ for any positive number n.			1 2 3 4 5 6 7 8
	13	Use index notation and index laws for simple fractional powers such as $16^{3/4}$ .			1 2 3 4 5 6 7 8
	14	Calculate with standard index form.			1 2 3 4 5 6 7 8
Level 6	15	Simplify surds to the form $a\sqrt{b}$			1 2 3 4 5 6 7 8
Level 7	16	Simplify surds, such as $4(3 + \sqrt{3})$ and $(2 - \sqrt{3})(4 + \sqrt{3})$ in the form $a + b\sqrt{3}$			1 2 3 4 5 6 7 8
	17	Rationalise the denominator of a surd such as $2/\sqrt{5}$ .			1 2 3 4 5 6 7 8
Level 8	18	Rationalise a denominator in the form $a\sqrt{b}$ , $a + \sqrt{b}$ and $a + b\sqrt{c}$ .			1 2 3 4 5 6 7 8

Level	Obj No	Maths - Number	Started (/)	Completed (X)	Level Achieved
		Calculations and Accuracy			
Level 1	1	+/-/x/÷ with 2 or 3 digits			1 2 3 4 5 6 7 8
	2	+/-/x/÷ directed numbers.			1 2 3 4 5 6 7 8
	3	Understand inverse operations.			1 2 3 4 5 6 7 8
	4	Understand place value.			1 2 3 4 5 6 7 8
Level 2	5	Understand and apply the correct order of operations (BIDMAS).			1 2 3 4 5 6 7 8
	6	Calculate money problems.			1 2 3 4 5 6 7 8
	7	Round to a given number of decimal places.			1 2 3 4 5 6 7 8
Level 3	8	Round to a given number of significant figures.			1 2 3 4 5 6 7 8
	9	Use place value to calculate changes to calculations.			1 2 3 4 5 6 7 8
	10	Use a calculator for complex calculations.			1 2 3 4 5 6 7 8
Level 4	11	Find upper and lower bounds.			1 2 3 4 5 6 7 8
	12	Estimate answers to calculations.			1 2 3 4 5 6 7 8
Level 5	13	Use inequality notation to specify error intervals due to rounding.			1 2 3 4 5 6 7 8
Level 6	14	Find the upper and lower bounds of calculations with quantities given to a various degrees of accuracy.			1 2 3 4 5 6 7 8

Level	Obj No	Maths - Algebra	Started (/)	Completed (X)	Level Achieved
		Sequences, Functions and Graphs			
Level 1	1	Find next terms of a sequence given a rule			1 2 3 4 5 6 7 8
	2	Generate a number sequence from a pattern			1 2 3 4 5 6 7 8
	3	Use coordinates in all four quadrants			1 2 3 4 5 6 7 8
Level 2	4	Plot straight line graphs of the form $x = 4$ and $y = 2$			1 2 3 4 5 6 7 8
	5	Find the nth term of an arithmetic sequence.			1 2 3 4 5 6 7 8
Level 3	6	Complete a table of values for equations such as $y = 3x + 3$ and draw the graph			1 2 3 4 5 6 7 8
	7	Calculate the gradient of a linear graph.			1 2 3 4 5 6 7 8
Level 4	8	Solve simultaneous equations graphically			1 2 3 4 5 6 7 8
	9	Recognise and use sequences of triangular, square and cube numbers and Fibonacci type sequences			1 2 3 4 5 6 7 8
Level 5	10	Use $y = mx + c$ to identify parallel lines			1 2 3 4 5 6 7 8
	11	Find the equation of a line through two points or one point with a given gradient			1 2 3 4 5 6 7 8
	12	Recognise and use sequences of quadratic and geometric sequences			1 2 3 4 5 6 7 8
	13	Sketch graphs of quadratic, cubic and reciprocal functions from a table of values			1 2 3 4 5 6 7 8
Level 6	14	Use $y = mx + c$ to identify perpendicular lines			1 2 3 4 5 6 7 8
	15	Explore the gradients of perpendicular straight-line graphs			1 2 3 4 5 6 7 8
	16	Sketch graphs of exponential functions			1 2 3 4 5 6 7 8
Level 7	17	Explore the gradients of perpendicular straight-line graphs			1 2 3 4 5 6 7 8
	18	Transform the graphs of $y = f(x)$ , such as linear, quadratic, cubic, sine and cosine functions, using the transformations $y = f(x) + a$ , $y = f(x + a)$ , $y = f(ax)$ and $y = af(x)$			1 2 3 4 5 6 7 8
	19	Identify the turning point of a quadratic by sketching the graph			

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		Simplifying and Substituting			
Level 2	1	Simplify expressions			1 2 3 4 5 6 7 8
	2	Substitute numbers into a simple formula.			1 2 3 4 5 6 7 8
Level 3	3	Expand single brackets.			1 2 3 4 5 6 7 8
	4	Substitute numbers into a more complicated formula.			1 2 3 4 5 6 7 8
Level 4	5	Factorise single brackets.			1 2 3 4 5 6 7 8
	6	Expand quadratics.			1 2 3 4 5 6 7 8
	7	Know the difference between an equation and an identity.			1 2 3 4 5 6 7 8
Level 5	8	Factorise quadratics in the form $ax^2 + bx + c = 0$ where $a = 1$ .			1 2 3 4 5 6 7 8
	9	Recognise and factorise the difference of two squares.			1 2 3 4 5 6 7 8
Level 6	10	Factorise quadratics in the form $ax^2 + bx + c = 0$ where $a > 1$ .			1 2 3 4 5 6 7 8
Level 7	11	Simplify algebraic fractions that involve factorising.			1 2 3 4 5 6 7 8
Level 8	12	Expand products of more than two binomials.			1 2 3 4 5 6 7 8
Level 9	13	Interpret the reverse process as the 'inverse function'.			1 2 3 4 5 6 7 8
	14	Interpret the succession of two functions as a 'composite function'.			1 2 3 4 5 6 7 8
					1 2 3 4 5 6 7 8
					1 2 3 4 5 6 7 8
					1 2 3 4 5 6 7 8
					1 2 3 4 5 6 7 8

Level	Obj No	Maths - Algebra	Started (/)	Completed (X)	Level Achieved
		Forming and Solving Equations			
Level 1	1	Use function machines to solve basic linear equations.			1 2 3 4 5 6 7 8
Level 2	2	Solve simple linear equations.			1 2 3 4 5 6 7 8
	3	Derive basic formulae from words.			1 2 3 4 5 6 7 8
Level 3	4	Solve linear equations with unknowns on both sides.			1 2 3 4 5 6 7 8
	5	Solve linear equations with an unknown on one side with brackets.			1 2 3 4 5 6 7 8
	6	Derive more complex formulae from words.			1 2 3 4 5 6 7 8
Level 4	7	Solve linear equations with unknowns on both sides involving brackets.			1 2 3 4 5 6 7 8
	8	Rearrange linear formulae.			1 2 3 4 5 6 7 8
Level 5	9	Factorise and solve quadratics in the form $ax^2 + bx + c = 0$ where $a = 1$ .			1 2 3 4 5 6 7 8
	10	Solve linear simultaneous equations.			1 2 3 4 5 6 7 8
	11	Rearrange formulae that include brackets, fractions and square roots.			1 2 3 4 5 6 7 8
	12	Rearrange formulae where the variable appears twice.			1 2 3 4 5 6 7 8
Level 6	13	Find approximate solutions to equations numerically using iteration.			1 2 3 4 5 6 7 8
	14	Factorise and solve quadratics in the form $ax^2 + bx + c = 0$ where $a > 1$ .			1 2 3 4 5 6 7 8
	15	Solve quadratics using the quadratic formula.			1 2 3 4 5 6 7 8
Level 7	16	Solve fractional linear equations with an unknown in the denominator.			1 2 3 4 5 6 7 8
	17	Complete the square to solve quadratic equations.			1 2 3 4 5 6 7 8
Level 8	18	Solve fractional quadratic equations.			1 2 3 4 5 6 7 8



Level	Obj No	Maths - Geometry and Measures	Started (/)	Completed (X)	Level Achieved
		Lines, Angles and Shapes			
Level 1	1	Identify isosceles, equilateral and right-angled triangles			1 2 3 4 5 6 7 8
	2	Recognise acute, obtuse and reflex angles.			1 2 3 4 5 6 7 8
Level 2	3	Understand the terms 'parallel' and 'perpendicular'			1 2 3 4 5 6 7 8
	4	Know angles around a point add up to 360°			1 2 3 4 5 6 7 8
	5	Know angles on a straight line and angles in a triangle add up to 180°			1 2 3 4 5 6 7 8
Level 3	6	Solve problems involving corresponding, alternate and supplementary angles			1 2 3 4 5 6 7 8
	7	Use angle facts to solve problems involving triangles			1 2 3 4 5 6 7 8
Level 4	8	Calculate interior and exterior angles of a regular polygon			1 2 3 4 5 6 7 8
	9	Recognise tangents, arcs, sectors and segments of circles			1 2 3 4 5 6 7 8
Level 5	10	Recognise congruence and similarity			1 2 3 4 5 6 7 8
Level 6	11	Use the tangent/radius properties of a circle			1 2 3 4 5 6 7 8
Level 7	12	Apply circle theorems			1 2 3 4 5 6 7 8
Level 8	13	Prove circle theorems			1 2 3 4 5 6 7 8
	14	Use the conditions for congruent triangles in formal geometrical proofs			1 2 3 4 5 6 7 8

Level	Obj No	Maths - Geometry and Measures	Started (/) Completed (X)	Level Achieved
		Construction and Loci		
Level 1	1	Draw and measure lines and angles		1 2 3 4 5 6 7 8
Level 2	2	Construct a triangle given SAS or ASA.		1 2 3 4 5 6 7 8
	3	Draw the net of a simple solid such as a cuboid.		1 2 3 4 5 6 7 8
	4	Draw and recognise plans and elevations of 3D objects.		1 2 3 4 5 6 7 8
Level 3	5	Draw and measure bearings problems.		1 2 3 4 5 6 7 8
	6	Use map scales to find distance.		1 2 3 4 5 6 7 8
Level 4	7	Construct a triangle given SSS.		1 2 3 4 5 6 7 8
	8	Construct the perpendicular bisector of a line.		1 2 3 4 5 6 7 8
	9	Construct the bisector of an angle.		1 2 3 4 5 6 7 8
Level 5	10	Understand the idea of a locus.		1 2 3 4 5 6 7 8
	11	Solve loci problems.		1 2 3 4 5 6 7 8



Level	Obj No	Maths - Geometry and Measures	Started (/)	Completed (X)	Level Achieved
		Transformations			
Level 1	1	Draw the reflection of a shape in a mirror line.			1 2 3 4 5 6 7 8
	2	Draw a line of symmetry on a 2D shape.			1 2 3 4 5 6 7 8
Level 2	3	Draw all the lines of symmetry on a 2D shape.			1 2 3 4 5 6 7 8
	4	Draw the line of reflection for two shapes.			1 2 3 4 5 6 7 8
	5	Give the order of rotational symmetry of a 2D shape.			1 2 3 4 5 6 7 8
	6	Give a scale factor for an enlarged shape.			1 2 3 4 5 6 7 8
Level 3	7	Reflect shapes in the axes of a graph.			1 2 3 4 5 6 7 8
	8	Enlarge a shape by a positive scale factor.			1 2 3 4 5 6 7 8
Level 4	9	Reflect shapes in lines such as $x = 2$ and $y = -1$ .			1 2 3 4 5 6 7 8
	10	Rotate shapes about the origin.			1 2 3 4 5 6 7 8
	11	Enlarge a shape by a positive integer scale factor from a given centre.			1 2 3 4 5 6 7 8
Level 5	12	Reflect shapes in the lines $y = x$ and $y = -x$ .			1 2 3 4 5 6 7 8
	13	Rotate shapes about any point.			1 2 3 4 5 6 7 8
	14	Translate a shape by a vector.			1 2 3 4 5 6 7 8
	15	Enlarge a shape by a positive fractional scale factor.			1 2 3 4 5 6 7 8
Level 6	16	Enlarge a shape by a negative scale factor.			1 2 3 4 5 6 7 8
Level 7	17	Describe the changes and invariance achieved by combinations of rotations, reflections and transformations.			1 2 3 4 5 6 7 8
	18	Add, subtract and multiply vectors.			1 2 3 4 5 6 7 8

Level	Obj No	Maths - Geometry and Measures	Started (/)	Completed (X)	Level Achieved
		Pythagoras' Theorem and Trigonometry			
Level 4	1	Use Pythagoras' Theorem to calculate the length of the hypotenuse of a right-angled triangle			1 2 3 4 5 6 7 8
	2	Use Pythagoras' Theorem to calculate the length of any side of a right-angled triangle			1 2 3 4 5 6 7 8
	3	Use Pythagoras' Theorem to calculate the height of an isosceles triangle			1 2 3 4 5 6 7 8
Level 5	4	Find the distance between two coordinates			1 2 3 4 5 6 7 8
	5	Use Pythagoras' Theorem in practical problems			1 2 3 4 5 6 7 8
	6	Use SOHCAHTOA to calculate missing sides and angles in right-angled triangles			1 2 3 4 5 6 7 8
	7	Know the exact values of sine, cosine and tangent at key angles (0, 30, 45, 60, 90 degrees)			1 2 3 4 5 6 7 8
Level 6	8	Use Pythagoras' Theorem in 3D			1 2 3 4 5 6 7 8
	9	Find the angle between a line and a plane			1 2 3 4 5 6 7 8
	10	Use the formula for area of a non-right-angled triangle			1 2 3 4 5 6 7 8
Level 7	11	Use the sine rule to find missing sides and angles in non-right-angled triangles			1 2 3 4 5 6 7 8
	12	Use the cosine rule to find missing sides and angles in non-right-angled triangles.			1 2 3 4 5 6 7 8
Level 8	13	Understand when to use sine or cosine rule			1 2 3 4 5 6 7 8
	14	Sketch the graphs of: $y = \sin x$ , $y = \cos x$ , $y = \tan x$			1 2 3 4 5 6 7 8
					1 2 3 4 5 6 7 8
					1 2 3 4 5 6 7 8
					1 2 3 4 5 6 7 8
					1 2 3 4 5 6 7 8







Level	Obj No	Maths - Statistics	Started (/)	Completed (X)	Level Achieved
		Statistical Inquiry			
Level 1	1	Find the mode and median for an odd set of numbers.			1 2 3 4 5 6 7 8
Level 2	2	Work out the range for a set of numbers.			1 2 3 4 5 6 7 8
	3	Find the median for an even set of numbers.			1 2 3 4 5 6 7 8
	4	Calculate the mean for a set of numbers.			1 2 3 4 5 6 7 8
Level 3	5	Compare the mean and range of two distributions.			1 2 3 4 5 6 7 8
Level 4	6	Use a variety of sampling methods.			1 2 3 4 5 6 7 8
	7	Classify types of data.			1 2 3 4 5 6 7 8
	8	Design and use data collection sheets and questionnaires.			1 2 3 4 5 6 7 8
Level 5	9	Draw and interpret a time series graph.			1 2 3 4 5 6 7 8
	10	Calculate the mean from a frequency table.			1 2 3 4 5 6 7 8
	11	Use stratified sampling methods.			1 2 3 4 5 6 7 8
Level 6	12	Estimate the mean from grouped data.			1 2 3 4 5 6 7 8
	13	Find the modal group and location of the median from grouped data.			1 2 3 4 5 6 7 8
Level 7	14	Estimate population sizes using the Petersen capture-recapture model			1 2 3 4 5 6 7 8
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					1 2 3 4 5 6 7 8
					1 2 3 4 5 6 7 8
					1 2 3 4 5 6 7 8

Level	Obj No	Maths - Statistics	Started (/)	Completed (X)	Level Achieved
		Data and Interpreting Results			
Level 1	1	Find the mode and median for an odd set of numbers.			1 2 3 4 5 6 7 8
	2	Use tally charts for discrete and continuous data.			1 2 3 4 5 6 7 8
	3	Construct and interpret a pictogram.			1 2 3 4 5 6 7 8
	4	Group data into Venn and Carroll diagrams.			1 2 3 4 5 6 7 8
	5	Draw stem and leaf diagrams			1 2 3 4 5 6 7 8
Level 2	6	Construct and interpret a bar chart.			1 2 3 4 5 6 7 8
	7	Work out the range for a set of numbers.			1 2 3 4 5 6 7 8
	8	Find the median for an even set of numbers.			1 2 3 4 5 6 7 8
	9	Calculate the mean for a set of numbers.			1 2 3 4 5 6 7 8
	10	Interpret a pie chart.			1 2 3 4 5 6 7 8
	11	Interpret a stem and leaf diagram			1 2 3 4 5 6 7 8
Level 3	12	Compare the mean and range of two distributions.			1 2 3 4 5 6 7 8
	13	Draw and interpret pie charts.			1 2 3 4 5 6 7 8
	14	Draw and interpret a scatter graph.			1 2 3 4 5 6 7 8
Level 4	15	Draw a line of best fit on a scatter graph and describe the correlation.			1 2 3 4 5 6 7 8
Level 5	16	Draw and interpret a time series graph.			1 2 3 4 5 6 7 8
	17	Calculate the mean from a frequency table.			1 2 3 4 5 6 7 8
Level 6	18	Estimate the mean from grouped data.			1 2 3 4 5 6 7 8
	19	Find the modal group and location of the median from grouped data.			

Level	Obj No	Maths - Statistics	Started (/)	Completed (X)	Level Achieved
		Probability			
Level 1	1	Understand and use the vocabulary of probability.			1 2 3 4 5 6 7 8
	2	Understand and use the probability scale.			1 2 3 4 5 6 7 8
	3	List outcomes systematically			1 2 3 4 5 6 7 8
Level 2	4	Express a probability as a fraction.			1 2 3 4 5 6 7 8
	5	Use the fact that the probabilities of mutually exclusive events add up to 1.			1 2 3 4 5 6 7 8
	6	Complete and use two-way tables.			1 2 3 4 5 6 7 8
Level 3	7	Understand relative frequency as an estimate of probability.			1 2 3 4 5 6 7 8
	8	Use relative frequency to compare outcomes of experiments.			1 2 3 4 5 6 7 8
	9	Use a sample space diagram to find a probability.			1 2 3 4 5 6 7 8
Level 4	10	Use relative frequency to compare outcomes of experiments.			1 2 3 4 5 6 7 8
	11	Draw probability tree diagrams			1 2 3 4 5 6 7 8
Level 5	12	Use probability trees to find probabilities of successive independent events			1 2 3 4 5 6 7 8
	13	Representation probabilities with Venn diagrams.			1 2 3 4 5 6 7 8
Level 6	14	Use probability trees to find probabilities of successive dependent events.			1 2 3 4 5 6 7 8
Level 7	15	Calculate and interpret conditional probabilities through representation using expected frequencies with Venn diagrams and $U/n$ .			1 2 3 4 5 6 7 8
					1 2 3 4 5 6 7 8
					1 2 3 4 5 6 7 8
					1 2 3 4 5 6 7 8



Level	Obj No	Maths - Ratio, proportion and rates of change	Started (/)	Completed (X)	Level Achieved
		Fractions Decimals and Percentages			
Level 1	1	Find equivalent fractions.			1 2 3 4 5 6 7 8
	2	Simplify fractions.			1 2 3 4 5 6 7 8
	3	Understand 'per cent' means 'out of 100'.			1 2 3 4 5 6 7 8
	4	Order decimals.			1 2 3 4 5 6 7 8
Level 2	5	Order fractions.			1 2 3 4 5 6 7 8
	6	Calculate fractions of quantities.			1 2 3 4 5 6 7 8
	7	Convert between fraction decimals and percentages			1 2 3 4 5 6 7 8
	8	Calculate percentages of quantities.			1 2 3 4 5 6 7 8
Level 3	9	Add, subtract, multiply and divide fractions.			1 2 3 4 5 6 7 8
	10	Multiply and divide decimals.			1 2 3 4 5 6 7 8
	11	Increase or decrease a quantity by a given percentage.			1 2 3 4 5 6 7 8
	12	Compare fractions, decimals and percentages.			1 2 3 4 5 6 7 8
Level 4	13	Calculate percentage change.			1 2 3 4 5 6 7 8
	14	Calculate with mixed numbers.			1 2 3 4 5 6 7 8
Level 5	15	Work out reverse percentage problems.			1 2 3 4 5 6 7 8
	16	Work out compound interest and depreciation			1 2 3 4 5 6 7 8
Level 6	17	Convert recurring decimals to fractions and fractions to recurring decimals.			1 2 3 4 5 6 7 8
					1 2 3 4 5 6 7 8

