GCSE 2018/2019

GRADING CRITERIA

Grade Criteria
Knowledge, Skills and Understanding in the subject of Maths

New GCSE	Number	Algebra	Shape, Space & Measure	Data Handling	Ratio & Proportion
9	Learners must excel in all criteria below.	Interpreting areas under a curve in context. Understanding rates of change. Find the inverse function. Composite functions. Expand the product of more than two binomials.	Learners must excel in all criteria below.	Learners must excel in all criteria below.	Learners must excel in all criteria below.
8	Learners must excel in all criteria below.	Complete a given transformation of a graph. Plotting graphs of circles.	Know the exact values of some trigonometric ratios. Plot the graph of the sine, cosine and tangent functions. Geometric proofs (vectors).	Calculate conditional probabilities, through Venn diagrams.	Learners must excel in all criteria below.
7	Upper and lower bounds. Performing complex calculations with surds.	Simplifying algebraic-fractions. Adding, subtracting, multiplying and dividing algebraic fractions. Understand simple geometric progressions including surds. Find the nth term of a quadratic sequence.	Solve more complex vector problems. Use the sine and cosine rules to solve problems. Find the area of a triangle using 1/2absinC.	Draw a histogram with unequal class widths.	Learners must excel in all criteria below.
6	Convert recurring decimals to fractions. Simplifying surds.	Plot the graph of an exponential function. Change the subject of a complex formula. Solving quadratic equations using the quadratic formula, or completing the square.	Enlarge a shape by a negative scale factor. Solve problems involving Pythagoras' Theorem and Trigonometry in 30. Find missing volumes and areas using the properties of similar shapes. Use the circle theorems to find missing angles.	Draw and interpret from a cumulative frequency graph. Calculate the upper and lower quartiles. Calculate the interquartile range. Draw a box plot to represent a set of data. Stratified sampling.	Direct and inverse proportion involving squares, square roots and cubes.

New GCSE	Number	Algebra	Shape, Space & Measure	Data Handling	Ratio & Proportion
5	Understand negative and fractional indices. Perform calculations using numbers in standard form.	Factorise quadratic expressions. Simplify expressions involving the index laws. Plot graphs of quadratic, cubic and reciprocal functions. Solve simultaneous equations (both linear). Solve quadratic equations by factorising.	Use basic trigonometry to find missing lengths and angles in right angled triangles. Calculate the volume of spheres and cones. Calculate the surface area of spheres and cones. Draw a given vector. Perform vector addition and subtraction. Find missing lengths when given similar shapes. Calculate the length of an arc. Calculate the area of a sector. Enlarge a shape by a fractional scale factor. Use Pythagoras' Theorem to find missing lengths in a right angled triangle.	Solve complex probability questions using tree diagrams. Frequency trees.	Direct and inverse proportion.
4	Understand recurring decimals. Estimate square and cube roots. Convert between standard form and ordinary numbers. Calculate the percentage change.	Identify the equation of a parallel or perpendicular line. Change the subject of basic formulae. Plot inequalities in two variables and locate the region that satisfies the set of inequalities.	Calculate the area and circumference of a circle. Calculate the volume of cubes, cuboids, prisms and pyramids. Calculate the surface area of cubes, cuboids, prisms and pyramids. Calculate compound measures including density and speed. Calculate the area and perimeter of compound shapes. Calculate the sum of the interior angles of any n sided polygon. Find the size of an exterior angle of an n sided polygon. Describe a single transformation. Draw the loci of a set of rules. Use the formula to work out the area of a trapezium.	Find the mean, median, mode and range from a frequency table containing grouped data.	Simple growth and decay.

New GCSE	Number	Algebra	Shape, Space & Measure	Data Handling	Ratio & Proportion
3	Round to a given number of significant figures. Multiply and divide negative numbers. Write a number as a product of its prime factors. Identify the HCF and LCM of two numbers using prime factor decomposition. Understand how to square, cube, square root and cube root a number. Divide numbers using short and long division. Understanding the laws of indices. Multiply decimals using a written method. Estimate calculations using rounding. Adding and subtracting mixed numbers. Multiplying and dividing mixed numbers. Increase/decrease a number by a civen percentage.	Expand a double set of brackets. Factorise out a single term. Substitute positive and negative values into expressions. Solve equations involving brackets. Solve equations with unknowns on both sides. Use y=mx+c to plot a linear function. Find the nth term of a given sequence.	Use the formulae to work out the-area of 2D shapes including rectangles, tr'iangles, and parallelograms. Solve geometric_ problems involving parallel lines. Enlarge 2D shapes by a positive integer scale factor. Perform constructions including angle and perpendicular bisectors. Accurately construct triangles. Identify the order of rotational symmetry for a given shape.	Draw a scattergraph and identify the type of correlation. Estimate values using a line of best fit on a scattergraph. Accurately draw pie charts. Know that the sum of probabilities of mutually exclusive events is 1. Find the mean, median, mode and range from a frequency table containing discrete data. Draw a frequency polygon.	Use the equivalence of fractions, decimals and percentages to compare proportions. Scale drawings.
2	Recognise and describe number patterns. Order fractions using a common denominator. Reduce a fraction to its simplest fonn. Convert between fractions, decimals and percentages. Find the HCF and LCM of two numbers. Adding and subtracting negative numbers. Multiply decimals by an integer. Convert between mixed and improper fractions. Adding and subtracting fractions. Multiplying and dividing fractions. Calculate the percentage of an amount.	Expand a single term over a bracket. Substitute values into an expression. Create formulae. Plot a linear function using a table of values. Understand how to find the gradient and intercept Of a function. Draw a graph to represent a situation in context. Write down integers that satisfy a given inequality. Plot an inequality on a number line.	Reflect shapes along a diagonal mirror line. Translate a shape. Rotate a shape. Estimate length, mass or capacity of a particular object. Find_the area and perimeter of simple 20 shapes. Find missing angles using angles along a straight line, around a point, in a triangle or in a quadrilateral. Accurately draw angles using a protractor. Draw accurate plans and elevations of a given 3D shape. Recognise congruent shapes. Convert between metric units of measure. Reading from a bus/train timetable.	Describe probability using fractions, decimals and percentages. Write a good questionnaire. Understand what bias means. Understand the difference between experimental and theoretical probability. Interpret graphs and diagrams including simple pie charts. Calculate the mean and median of a simple set of data.	Share a quantity into a given ratio. Comparing ratios.

New GCSE	Number	Algebra	Shape, Space & Measure	Data Handling	Ratio & Proportion
1	Order numbers including negatives. Use place value to make approximations. Recognise equivalent fractions. Round to a given number of decimal places. Recognise multiples and factors. Identify prime numbers. Find a fraction of an amount.	Understand function machines. Solve one and two step equations. Plot coordinates in all four quadrants. Draw and interpret from a distance time graph. Find the term to term rule of a given sequence.	Identify the number of lines of symmetry of a given shape. Identify nets of 30 shapes. Reflect shapes across horizontal or vertical lines. Tell the time. Change between a 12 and 24 hour clock. Measure objects in metric units. Select the most appropriate metric units to use to measure an object. Read and interpret scales.	Know the difference between discrete and continuous data. Classify objects using a Venn diagram. Draw and interpret from dual and compound bar charts. Draw and interpret from a line graph. Understand the use of the mode and range to describe a set of data.	Simplify a given ratio.
0	Count sets of objects. Understand the place value of each digit. Order positive integers up to 100. Recognise negative numbers in context (i.e. temperature). Understand halves and quarters of numbers.	Recognise sequences including even and odd numbers. Understand basic algebraic convention. Simplify expression by collecting like terms. Plot coordinates in the first quadrant.	Describe the properties of 2D and 3D shapes. Use Mathematical names for common 2D and 3D shapes. Identify the number of faces, vertices and edges of a 3D shape. Recognise acute, right, obtuse, straight line and reflex angles.	Understand the data handling cycle. Record data in a tally chart. Draw and interpret from pictograms. Draw and interpret from bar charts. Read information from a table. Use words to describe probability.	Understand simple ratios.
	Add and subtract numbers using the column method. Multiply 2 digit by 2 digit numbers. Round to the nearest 10, 100, 1000. Use BIDMAS to perform calculations.				

SchoolExams .co.uk