



TQEA Mathematics Department Year 7 Support Timeline 25-26

		1	2	3	4	5	6	7	8	9	10
		Rounding	POWERS OF 10	Multiplication	Negatives	Algebra	Metric Units	Division	Averages	Perimeter	
activity... activity...	During Lesson	<p>To be able to correctly identify place value – integer values</p> <p>To be able to correctly identify place value – decimal numbers</p> <p>To be able to round to 10 and 100 and 1000</p> <p>To be able to order decimal places from smallest to largest and vice versa</p>	<p>To be able to multiply integers by 10, 100 and 1000</p> <p>To be able to multiply decimals by 10, 100 and 1000 – not creating decimal answers</p> <p>To be able to divide integers by 10, 100 and 1000 – not creating decimal answers</p> <p>To be able to divide any value including decimals by 10, 100 and 1000 – creating decimal answers</p>	<p>To be able to use multiplication facts up to 12 x 12</p> <p>To be able to multiply 2 digits by 1-digit numbers using the grid method – emphasis on place value and addition</p> <p>To be able to multiply 3 digits by 1-digit values using the grid method</p> <p>To be able to multiply 2 digit by 2-digit numbers using grid method</p>	<p>To be able to order negative numbers using number lines</p> <p>To be able to order positive and negative numbers and use negative numbers in context</p> <p>To be able to calculate with directed numbers – add and subtract (not using sign rules) that cross zero</p> <p>To be able to calculate with directed numbers – multiply 2 digits by 1 digit</p> <p>To be able to calculate with directed numbers-divide 2 digit by 1 digit</p>	<p>To be able to interpret algebraic notation – including understanding the meaning of “expression”</p> <p>To be able to simplify by adding and subtracting like terms – single term (explicit link to directed numbers)</p> <p>To be able to simplify by adding like terms – two variables</p>	<p>To be able to draw lines in cm and mm</p> <p>To be able to convert units of measure - length mm, cm, m, km non decimals solutions</p> <p>To be able to Convert between metric units of capacity (ml/cl/l)</p> <p>To be able to Convert between metric units of mass (mg/g/kg/T)</p>	<p>To be able to divide a two digit or three digit number by a single digit without remainders</p> <p>To be able to divide 2 digit values by a single digit with remainders as decimals</p> <p>To be able to divide 2 digit values by a single digit with carrying, (no remainders)</p> <p>To be able to divide 2 digit values by a single digit with carrying, (no remainders)</p>	<p>To be able to calculate mode and the range</p> <p>To be able to calculate the median from a small list of numbers – initially ordered numbers</p> <p>To be able to calculate the mean from a small list of numbers</p> <p>To be able to calculate averages from statistical diagrams</p>	<p>To be able to calculate the perimeter by counting squares</p> <p>To be able to calculate the perimeter of rectangles</p> <p>To be able to calculate the perimeter of rectilinear compound shapes – all lengths given</p>	<p>To be able to find the perimeter when a missing side is needed (rectilinear compound shapes)</p> <p>To be able to calculate the perimeter of simple shapes including irregular polygons – all lengths given</p>
	Tests		Open Book Assessment (R/PO10)	Year 7 Baseline assessments	Open book assessment (M/N)	Open book assessment	Open book assessment	Open book assessment	Open book assessment	Open book assessment	

		11	12	13	14	15	16	17	18	19	20
		Factors/Multiples/Primes	Substitution	FDP	Powers				Equations	Area	Fractions
activity... activity...	During Lesson	<p>To be able to identify the factors of numbers – including the use of multiplication tables and grouping</p> <p>To be able to identify the multiples of numbers using multiplication tables</p> <p>To be able list and identify factors and multiples of numbers e.g. from lists of numbers</p>	<p>To be able to recognise prime numbers (Why is 1 not a prime number?)</p> <p>Find hcf by listing</p> <p>Find lcm by listing</p>	<p>To be able to substitute numerical values into expressions (positive value only)</p> <p>To be able to use single step function machines – finding outputs</p> <p>To be able to use single step function machines – finding outputs</p> <p>To be able to use single step function machines – finding inputs</p> <p>To be able to use 2 step function machines</p>	<p>To be able to recognise simple FDP conversions with basic fractions</p> <p>To be able to recognise percentages as parts of 100 and write basic fractions as a percentage (e.g. $\frac{7}{50}, \frac{7}{25}$)</p> <p>To be able to calculate equivalent fractions by multiplying numerator and denominator</p> <p>To be able to simplify fractions by dividing by 2, 3, 4, 5 – scaffolded then</p>	<p>To practice mentally multiplication facts up to 12 x 12</p> <p>To calculate and recognise square numbers up to 10^2</p> <p>To understand basic index notation</p> <p>Use a calculator to calculate with powers and roots</p>	Revision	Revision	<p>To be able to use inverse operations using one step function machines and bar models</p> <p>To be able to use inverse operations using two step functions machines (not division)</p> <p>To be able to solve one step equations – positive integer answers only</p> <p>To be able to solve two-step equations - positive integer answers only</p>	<p>To be able to calculate the area of simple shapes by counting squares</p> <p>To be able to calculate the area of rectangles using the formulae – integer lengths, metric units</p> <p>To calculate the area of triangles using the formulae –</p> <p>To calculate the area of parallelograms</p> <p>To find the area of a compound shape involving rectangles and triangles</p>	<p>To calculate fractions of amounts using manipulatives/diagrams</p> <p>To calculate fractions of amounts using unit fractions – integer answers</p> <p>To calculate fractions of amounts</p> <p>To compare 2 fractions using inequalities</p> <p>Ordering fractions</p>
	Tests		Open book assessment	Open book assessment		Open book assessment	Year 7 EBACC Assessment Weeks		Open book assessment	Open book assessment	



TQEA Mathematics Department Year 7 Core Timeline 25-26

		1	2	3	4	5	6	7	8	9	10
		Rounding	POWERS OF 10	Multiplication	Negatives	Algebra	Metric Units	Division	Averages	Perimeter	Factors/Multiples /Primes
activity... activity...	During Lesson	<p>To be able to order decimal places from smallest to largest and vice versa</p> <p>To be able to round a decimal to any given number of decimal places</p> <p>To be able to round to one significant figure, including decimals</p> <p>To estimate answers by rounding to one significant figure</p>	<p>To be able to multiply integers by positive powers of ten</p> <p>To be able to multiply decimals by positive powers of ten</p> <p>To divide integers and decimals by positive powers of ten</p> <p>Multiple step calculations involving multiplying and dividing by positive powers of ten</p>	<p>To be able to multiply a three-digit number by two digits without a calculator (Grid – method)</p> <p>To be able to multiply a three-digit number by three digits without a calculator (Grid-method)</p> <p>To multiply a decimal by a whole number without a calculator</p>	<p>To order negative numbers from smallest to largest and vice versa, to be able to use negatives in context</p> <p>To multiply and divide with negative numbers</p> <p>To add and subtract negative numbers such as -6 + 4 and -9-10</p> <p>To add and subtract negative numbers such as -8 + -4 and 6 - -8</p> <p>Use a calculator for directed number calculations</p>	<p>To be able to interpret algebraic notation and explain what we mean by simple expressions, and explain what like terms are</p> <p>To be able to add and subtract like terms up to 3 variables</p> <p>To be able to expand a single linear bracket with a number or variable. $a(x+b)/ a(x-b)$</p>	<p>To be able to Convert between metric units of length (mm/cm/m/km)</p> <p>To be able to Convert between metric units of capacity (ml/cl/l)</p> <p>To be able to Convert between metric units of mass (mg/g/kg/T)</p> <p>Compare different units and worded problems</p>	<p>To be able to use formal methods of division to divide by a single digit number with remainders</p> <p>To be able to use formal methods of division to divide by two-digit number with remainders</p> <p>To be able to divide a whole number by a decimal</p> <p>To be able to divide two decimals</p>	<p>To be able to calculate Mode, and range from a given list of numbers</p> <p>Calculate median from a list, including even amounts</p> <p>To be able to calculate the arithmetic mean from a given list of numbers</p> <p>To understanding the difference between averages (mean, median and mode) and spread of range</p>	<p>To be able to find the perimeter when a missing side is needed (rectilinear compound shapes)</p> <p>To be able to find the perimeter of special triangles and quadrilaterals</p> <p>To be able to find the perimeter of other compound shapes (not circle)</p> <p>Circumference of circle and semi circles</p>	<p>To be able to list factors and find the HCF by listing factors</p> <p>To be able to list multiples and find the LCM by listing multiples</p> <p>to be able to recognise prime numbers</p> <p>To be able to find the prime factors using decomposition</p>
	Tests		Open Book Assessment (R/PO10)	Year 7 Baseline assessments	Open book assessment (M/N)	Open book assessment	Open book assessment	Open book assessment	Open book assessment	Open book assessment	Open book assessment

		11	12	13	14	15	16	17	18	19	20
		Substitution	FDP	Powers	Equations	Area			Fractions	Operations	Percentages
activity... activity...	During Lesson	<p>To be able to substitute numerical values into expressions including negatives</p> <p>To use function machines will all operations numerically- finding inputs and outputs (including multi-step number machines)</p> <p>To be able to use function machines to create algebraic expressions, and to apply operation which involve algebra</p> <p>To be able to substitute numerical values into simple formulae</p>	<p>To know key equivalences between Fractions, Decimals and Percentages mentally</p> <p>To be able to convert between Fractions, Decimals and Percentages with and without a calculator</p> <p>To be find equivalent fractions</p> <p>To compare and order fractions, decimals and percentages without a calculator</p>	<p>To recognise and recall square numbers and associated roots up to 152</p> <p>To recognise and recall cube numbers and associated roots up to 103</p> <p>To understand basic index notation $3^4=3 \times 3 \times 3 \times 3$</p> <p>Use a calculators to calculate with powers and roots</p>	<p>To be able to solve one step equations involving all operations (+/-/x//)</p> <p>To be able to solve two step equations</p> <p>To be able to solve two step equations using fractions</p> <p>To be able to solve two step equations involving a single linear bracket</p> <p>To be able to form a solve equations from a diagram (using perimeters and angles)</p>	<p>To be able to calculate the area of a rectangle and find missing sides when the area is given</p> <p>To be able to calculate the area of a triangle and find missing sides when the area is given</p> <p>To calculate the area of a parallelogram</p> <p>To find the area of a compound shape involving rectangles and triangles</p>	Revision	Revision	<p>To find a fractions of an amount</p> <p>to be able to use equivalent fractions to order and compare fractions</p>	<p>To be able to use BIDMAS for Multiplication , division and subtraction of integers</p> <p>To be able to use BIDMAS for calculations involving powers and roots</p> <p>To be able to use brackets to make a calculation correct</p>	<p>To be able to use mental techniques to find key percentages (50%, 25%, 10%, 5%, 1%) and associated percentages (20% 75%...)</p> <p>To be able to increase a decrease by a percentage without a calculator</p> <p>To use a calculator to find a percentage of an amount</p> <p>Calculate percentage in/decrease with multipliers</p>
	Tests	Open book assessment		Open book assessment	Open book assessment	Open book assessment	Open book assessment	Year 7 EBACC Assessment Weeks			Open book assessment



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		21	22	23	24	25	26	27	28	29	30
		2d Shape	2d Shape	Fractions 2	Angle Rules	Angle Rules	Co-Ordinates	Multiply and Divide Fractions	Sequences		
activity... activity...	During Lesson	Identify properties of 2 d shapes up to 12-gon Identify special triangles and quadrilaterals Draw and measure angles <180 Draw and measure angles >180	Construct ASA / SAS triangles Construct SSS triangles Construct hexagons and rhombii	To convert between mixed numbers and improper fractions To be able to add and subtract fractions with a common denominator and where one denominator needs to be changed To be able to add and subtract fractions by finding the LCM of the denominators To be able to add and subtract mixed numbers	To be able to understand and use Angle notation And know angles on a straight line and round a point and 90* To know and apply the properties of vertically opposite angles To be able to select the appropriate angle rule to solve a problem	To be able to calculate with angles in a triangle including special triangles To be able to calculate with angles in a quadrilateral (including parallelograms and trapezia)	To be able to accurately plot coordinates in all four quadrants (including plotting shapes) To be able to plot a graph of $X=a/ y=a$ To be able to plot the graph of a straight line in the form $Y=mx+c$	To be able to Multiply a unit fraction by an integer To be able to Multiply two or more unit fractions and non-unit fractions To be understand and be able to calculate a reciprocal	To divide a fraction by an integer and an integer by a fraction To be able to divide two or more non unit fractions	To recognise and continue a sequence (linear/arithmetic, geometric and other non-linear sequences eg Fibonacci) To identify a term-to-term rule and non-linear sequence To generate a linear sequence from a worded description and when given a position-to-term rule To be able to find the nth term	
	Tests		Open Book Assessment	Open Book Assessment		Open Book Assessment	Open Book Assessment		Open Book Assessment	Open Book Assessment	Year 7 EBACC Assessment Weeks

		31	32	33	34	35	36	37	38	39	
			Transformations	Interpreting and displaying data		Probability		Ratio			
activity... activity...	During Lesson	Revision	To be able to reflect a shape in a vertical or horizontal line To describe a reflection giving the equation of the line of reflection To reflect a shape in a diagonal line To translate a shape using column vectors To describe a translation	To be able to draw and interpret representations of discrete data (bar charts, To be able to draw and interpret a pictograph To be able to construct a stem and leaf diagram	To be able to draw a pie chart To be able to interpret a pie chart	To be able to use both the likelihood and probability scale To calculate single event probability, and use the fact that probabilities sum to one. To construct and use a sample space	To calculate probabilities from frequency trees To generate a venn diagram for a simple set of numbers To calculate probability from venn diagrams	To be able to write and simplify a ratio To be able to convert between ratios and fractions To be able to share in a given ratio	Contingency week, and work on closing the knowledge gaps identified in EBCC assessment week		
	Tests	Year 7 EBACC Assessment Weeks	Open Book Assessment		Open Book Assessment		Open Book Assessment	Open Book Assessment			



TQEA Mathematics Department Year 7 Challenge Timeline 25-26

		1	2	3	4	5	6	7	8	9	10
		Rounding	POWERS OF 10	Multiplication	Negatives	Algebra		Metric Units	Division	Averages	Perimeter
activity... activity...	During Lesson	<p>To be able to round to any given number of decimal places, compare and order decimals</p> <p>To round to any number of Sig Figs</p> <p>To estimate calculations, problem solve with estimations including denominators <1</p> <p>To be able to use interval errors, and show on a number line (linked with inequalities)</p> <p>To be able to identify and use upper and lower bounds for maximum and minimum values</p>	<p>Multiply and divide negative powers of 10</p> <p>Convert between ordinary numbers and standard form (>1)</p> <p>Convert between ordinary numbers and standard form (<1)</p> <p>Add and subtract standard form</p>	<p>To be able to multiply a three-digit number by two digits without a calculator (Grid – method)</p> <p>Multiplying whole numbers with decimals</p> <p>Multiply decimals with decimals</p> <p>Laws of Indices - Multiplication and division</p> <p>Multiply in standard form</p>	<p>The four operations with negative numbers including bidmas</p> <p>Evaluating powers of negative numbers (-2)³</p> <p>Evaluate negative powers including negative numbers</p> <p>Problem solving with negative numbers</p>	<p>To be able to interpret algebraic notation and explain what we mean by simple expressions, and explain what like terms are</p> <p>To collect like terms including indices</p> <p>Multiply out single brackets and with more than one bracket 3(x-4)-5(x+6)</p> <p>Factorise into single brackets</p>	<p>multiply out double brackets</p> <p>Multiply out triple brackets</p> <p>Link to geometry areas of different shapes and angles</p>	<p>Convert between metric measure length, capacity and mass</p> <p>Add and subtract different units</p> <p>Use inequalities to compare different units</p> <p>Convert between metric and imperial units</p> <p>Convert metric units of area</p>	<p>Dividing whole numbers by one and two digits without remainders</p> <p>Dividing whole numbers by one and two digits with remainders as decimals and fractions</p> <p>Dividing whole numbers by decimals</p> <p>Dividing decimals by decimals</p> <p>Divide numbers in standard form</p>	<p>To be able to calculate Mode, and range from a given list of numbers</p> <p>Calculate median from a list, including even amounts</p> <p>Calculate mean from a list / find missing numbers from a list</p> <p>Problem solving questions with averages and the range</p> <p>Calculate mean from a table ungroup data</p> <p>Reverse mean problems</p>	<p>Be able to find missing side lengths given the total amount for the perimeter</p> <p>Find the perimeter of any shape</p> <p>Find the perimeter of shapes as an algebraic expression</p> <p>Circumference of circle and semi circles</p> <p>Perimeter of compound shapes</p>
	Tests		Open Book Assessment (R/PO10)	Year 7 Baseline assessments	Open book assessment (M/N)		Open book assessment	Open book assessment	Open book assessment	Open book assessment	Open book assessment

		11	12	13	14	15	16	17	18	19	20
		Factors/Multiples/Primes		Substitution		FDP			Powers		Equations
activity... activity...	During Lesson	<p>To be able to list factors and find the HCF by listing factors</p> <p>To be able to list multiples and find the LCM by listing multiples</p> <p>to be able to recognise prime numbers</p>	<p>Prime factors decomposition</p> <p>Find the HCF and LCM from a venn diagram</p> <p>Be able to answer worded questions and problem solve using LCM/HCF</p>	<p>To substitute numerical values into expressions including negatives, powers and fractions</p> <p>To use function machines will all operations numerically-</p> <p>To be able to use function machines to create algebraic expressions, and to apply operation which involve algebra</p>	<p>To substitute into formulae including those in context such as kinematics equations</p> <p>To answer worded problem-solving questions</p> <p>Rearrange formula basic</p>	<p>To know key equivalences between Fractions, Decimals and Percentages mentally</p> <p>To be able to convert between Fractions, Decimals and</p> <p>Equivalent fractions and ordering them</p> <p>FDP conversions with improper fractions</p> <p>Recognise recurring decimals</p>			<p>To recognise and recall square numbers and associated roots up to 152</p> <p>To recognise and recall cube numbers and associated roots up to 103</p> <p>To understand basic index notation 3⁴=3x3x3x3 and perform multi step calculations</p> <p>Use a calculators to calculate with powers and roots</p>	<p>Use higher integer powers and associated roots</p> <p>Calculate negative powers and roots with / without a calculator</p> <p>Distinguish between exact roots and decimal approximations</p> <p>Understanding and simplifying surds root 8 etc</p>	<p>To be able to solve one step equations involving all operations (+/-/x//)</p> <p>To be able to solve two step equations</p> <p>Expand a single bracket</p> <p>Solve two and three step equations including brackets</p>
	Tests		Open book assessment		Open book assessment	Open book assessment		Year 7 EBACC Assessment Weeks			Open book assessment



TQEA Mathematics Department Year 8 Support Timeline 25-26

		1	2	3	4	5	6	7	8	9	10
		Place Value	FDP	Simplifying Algebra		Percentages		Percentages	Data	Ratio	Proportion
activity... activity...	During Lesson	To be able to round to the nearest 10 / 100 / 1000 To be able to round to 3 d.p. To be able to round numbers greater than 1 to 1,2 and 3 significant figures. To estimate using rounding to 1 significant figure	To be able to make equivalent fractions to $x/100$ To be able to convert between fractions and percentages To be able to convert between f , d , p fluently To be able to express one number as a fraction of another	To be able to distinguish the difference between an equation, expression, identity and formulae To be able to collect like terms with 2 variables To be able to expand a single bracket by a number	To be able to expand and simplify multiple single brackets To be able to fully factorise a single bracket by a number To be able to expand and factorise a single bracket by a letter	To be able to calculate straightforward percentage of amounts (1%, 5%, 10%, 25%, 50%, 75%) To be able to calculate compound percentage of amounts without a calculator e.g. finding 22%, 83% To be able to increase and decrease an amount by a percentage without a calculator	Revision	To be able to calculate a percentage of an amount with a calculator using a decimal multiplier To be able to increase and decrease an amount by a percentage with a calculator To be able to express one amount as a percentage of another	To be able to draw and interpret ungrouped frequency tables To be able to draw and interpret Pictograms To be able to draw and interpret Bar Charts To be able to construct and interpret two-way tables To be able to draw and interpret composite bar charts/frequency trees	To be able to express an amount as a ratio To be able to simplify ratios including 1:n To be able to share into a ratio To be able to apply ratio in the context of maps To be able to solve problems in the context of ratio	To be able to use the Unitary method To be able to understand proportion as a fraction of a whole To be able to apply proportion to recipes To be able to apply proportion to best buys To be able to apply proportion to currency conversions
	Tests		Open Book Assessment (PV/FDP)		Open Book Assessment		Year 8 Assessment Week	Open Book Assessment	Open Book Assessment		Open Book Assessment (ratio and proportion)

		11	12	13	14	15	16	17	18	19	20	
		Area and perimeter		Fractions			Linear graphs			Sequences		Indices
activity... activity...	During Lesson	To be able to calculate the area of a rectangle and parallelogram To be able to calculate the area of a triangle To be able to calculate the area of a trapezium To be able to calculate the area of compound shapes excluding circles	To be able to label the parts of a circle and calculate circumference To calculate the area of circles and part of a circles	Be able to convert from improper fractions to mixed numbers To be able to convert from mixed numbers to improper fractions To be able to add and subtract fractions with the same denominator within and beyond 1	To be able to add and subtract fractions with different denominators using lowest common denominator To be able to multiply fractions To be able to divide fractions	To be able to read and plot coordinates in all four quadrants To be able to plot and draw $y=a$, $x=a$, $y=x$ – including non – linear plots To be able to draw $y=x+a$ – including non – linear plots To be able to draw and read $y=mx + c$ – including non – linear plots To be able to find the midpoint of a line	Revision	Revision	To be able to Identify sequences in pictures To be able to identify sequences in pictures and numbers To be able to continue an arithmetic sequence To be able to identify missing terms in an arithmetic sequence	To be able to generate a linear sequence from a rule Understand the difference between linear and non-linear sequences	To be able to understand and identify square and cube numbers and evaluate basic index notation To be able to multiply using index law To be able to divide using index law To be able to solve index law questions using (Brackets) e.g. $(2^3)^5$	
	Tests		Open Book Assessment		Open Book Assessment	Open Book Assessment	Year 8 EBACC Assessment Weeks			Open Book Assessment		



TQEA Mathematics Department Year 8 Support Timeline 25-26

		21	22	23	24	25	26	27	28	29	30
		Prime Factors	Prime Factors	Data 2	Scatter graphs/Pie Charts		Angles	Angles in polygons	Division	Substitution	
activity... activity...	During Lesson	<p>To be able to list and identify multiples and common multiples</p> <p>To be able to list and identify factors and common factors</p> <p>To be able to understand and identify a prime number below 100</p>	<p>To be able to express numbers as a product of prime factors</p> <p>To be able to use Venn Diagrams to find HCF and LCM</p>	<p>To be able to calculate range and mode from lists of data and ungrouped frequency tables</p> <p>To be able to calculate median from lists of data and ungrouped frequency tables</p> <p>To be able to calculate arithmetic mean from listed and ungrouped frequency data</p> <p>Compare data using averages and spread</p>	<p>To be able to interpret pie charts</p> <p>To be able to construct pie charts</p> <p>To be able to describe the relationship between variables</p>	<p>To be able to plot points onto a scatter graph</p> <p>To be able to plot a line of best fit and describe correlation.</p> <p>To be able to use a line of best fit to read values</p>	<p>Understand and use angle notation</p> <p>Understand the sum of angles around a point, sum of angles that meet on a straight line, vertically opposite angles</p> <p>To be able to identify and evaluate angles formed with parallel lines and a transversal</p> <p>To be able to solve more complex problems with angles including with parallel lines</p>	<p>To be able to identify special triangles and use the angle sum in triangles</p> <p>To be able to identify quadrilaterals and their properties</p> <p>To be able to use the angle sum in a quadrilateral</p> <p>To be able to find the interior angles in a polygon</p> <p>To be able to find exterior angles and sides of a polygons</p>	<p>To be able to divide an integer by a single digit with an integer answer</p> <p>To be able to divide an integer by a single digit with decimal and remainder answers</p> <p>To be able to divide decimal by a decimal</p>	<p>To be able to substitute a value for a variable in one step expressions</p> <p>To be able to use a one and two step function machine to find outputs from inputs</p> <p>To be able to substitute a value for a variable in two step expressions</p> <p>To be able to substitute multiple variables in more complex formulae</p>	Revision
	Tests		Open Book Assessment (Ind./PF)			Open Book Assessment (data/SG)		Open Book Assessment (angle)	Open Book Assessment	Open Book Assessment	Open Book Assessment

		31	32	33	34	35	36	37	38	39
			Volume and surface area	Volume and surface area	Compound measures	Standard form	Solving equations	Transformations	Enlargement	Real Life Graphs
activity... activity...	During Lesson	Revision	<p>To be able to identify the differences between 2d and 3D shapes, including the language of vertices edges and faces</p> <p>To be able to calculate the volume of a cuboid by counting cubes</p> <p>To be able to calculate the volume of a cuboid by calculating with dimensions</p>	<p>To be able to calculate the surface area of a cube</p> <p>To be able to calculate the Surface Area of a cuboid</p>	<p>To be able to tell the time using an analogue and digital times</p> <p>To be able to calculate with time (end time given start time, and differences in time)</p> <p>To be able to read timetables</p> <p>To be able to convert units of time</p> <p>To be able to calculate speed, distance and time</p>	<p>To be able to multiply and divide by powers of 10, with emphasis on place value (shifting values on a place value table)</p> <p>To be able to write a number in standard form</p> <p>To be able to compare and order values in standard form</p>	<p>To be able to solve 1 step equations with 4 rules</p> <p>To be able to solve two step equations</p> <p>To be able to expand a single bracket</p> <p>To be able to solve equations with brackets</p> <p>To be able to solve equations with unknowns on both sides</p> <p>To be able to form and solve equations</p>	<p>To be able to reflect a shape in a horizontal and vertical line</p> <p>To be able to reflect a shape in a diagonal line</p> <p>To be able to rotate a shape around a given point (not just the origin), including describing</p> <p>To be able to translate a shape using a column vector, including describing</p>	<p>To be able to calculate scale factor of enlargement from similar shapes – integer scale factors only</p> <p>To be able to enlarge a shape by a given scale factor (>1)</p> <p>To be able to enlarge a shape by a given scale factor (>1) and a given centre not just origin</p>	<p>To be able to draw a conversion graph – simple conversions e.g. £1 = \$2</p> <p>To be able to read simple conversion graphs</p> <p>To be able to read a distance time graph</p> <p>To be able to draw a distance time graph (on square paper)</p>
	Tests	Year 8 EBACC Assessment Weeks		Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment		Open Book Assessment



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		1	2	3	4	5	6	7	8	9	10
		Place Value	FDP	Simplifying Algebra		Percentages		Data		Ratio	Proportion
activity... activity...	During Lesson	Round to decimal places >> up to 3 DP Rounding Sig figs >> 3 Sig figs (Whole numbers & decimals) Estimating calculations (Problem solving) 347+132/0.5	To be able to Convert between FD&P To be able to order FDP (change all values into same units) Be able to write a number as a fraction of another	To be able to distinguish the difference between an equation, expression, identity and formulae Be able to expand a single bracket and simplify (Using Grid method) To be able expand and simply multiple linear brackets with addition and subtraction	Be able to find the product of two linear brackets and simplify (X+4) (x-6) Be able to Factorise by a single term 24x+8	To be able calculate increase and decrease by a percentage (without calculator) - + (10%,20%,50%,25%) To be able to increase and decrease percentages using a single multiplier (Calculator lesson) To be able to increase and decrease percentages using a single multiplier (Calculator lesson) To be able to express one amount as a percentage of another	Revision	Be able to interpret and draw a two-way table Be able to Interpret and draw frequency trees Be able to display grouped data including frequency table and frequency polygon	To be able to interpret and draw Multiple bar chart To be able to interpret and draw composite bar charts	To be able to write ratios in the form 1:n/ n:1 To be able to write a ratio as a fraction To be able to share in a given ratio To be able to share in a given ratio upto three parts when given one part. To be able to identify the scale on map and solve ratios Solve ratio problems	To be able to use the Unitary method To be able to convert currencies with given exchange rate To be able to find the best buy item To be able to use direct proportion with recipes
	Tests		Open Book Assessment (PV/FDP)		Open Book Assessment	Open Book Assessment	Year 8 Assessment Week		Open Book Assessment		Open Book Assessment (ratio and proportion)

		11	12	13	14	15	16	17	18	19	20
		Area and perimeter		Fractions	Linear graphs	Sequences			Indices	Prime Factors	Data 2
activity... activity...	During Lesson	To be able to calculate the area of a trapezium using the formula To be able to calculate the area of Compound Shapes To be able to label parts of a Circle and calculate circumference	To be able to calculate the perimeter of part of circle. To be able to calculate area of a circle and parts of a circle	To be able to multiply fractions with Mixed numbers To be able to add and subtract fractions with different denominators To be able to add and subtract fractions with different denominators To be able to divide fractions with Mixed numbers	To be able to plot and recognise graphs in the form of y=mx+c To calculate the mid-point of a pair of co-ordinates (graphically and numerically) To use algebraic substitution to identify if a point lies on the line	To be able to generate a sequence from a rule (linear) To be able find a rule from a sequence To be able to use the nth term to find a specific term and identify if it is in the sequence To recognise and find missing terms in different types of sequences: arithmetic, geometric, quadratic, Fibonacci	Revision	Revision	To be able to multiply and divide using index laws. To be able apply index laws (multiplication and division) to multi step problems To be able to solve index law questions using Brackets involving a coefficient of x being greater than 1 (2x3)5	To be able to express numbers as a product of prime factors To be able to use Venn diagrams to calculate HCF To be able to use Venn diagrams to calculate LCM	To be able work out averages and range from ungrouped data To be able to work out a missing data (given the mean) To be able to compare data using averages and spread To be able to identify misleading data
	Tests		Open Book Assessment	Open Book Assessment		Open Book Assessment (LG/Seq)	Year 8 EBACC Assessment Weeks			Open Book Assessment (Ind/PF)	



TQEA Mathematics Department Year 8 Core Timeline 25-26

		21	22	23	24	25	26	27	28	29	30
		Scatter graphs	Angles	Angles in polygons	Division	Substitution	Volume and surface area	Compound measures	Standard form	Solving equations	
activity... activity...	During Lesson	<p>To be able to plot points onto a scatter graph</p> <p>To be able to draw line of best fit, describe the relationship between variables and understand correlations</p> <p>To be able to interpret a scatter graph. (including Identify and Interpret outliers)</p>	<p>To be able to understand Angles in parallel lines; corresponding angles</p> <p>To be able to understand angles in alternate</p> <p>To be able to work out co-interior angles</p> <p>To solve multi step parallel lines problems</p>	<p>To work out the interior and exterior of a regular polygon</p> <p>To work out the sum of interior angles of any polygon using the formula $(n-2) \times 180$</p> <p>To work out the interior angle and exterior angle to find the number of sides of a polygon</p>	<p>To be able to divide a decimal by an integer</p> <p>To be able to use formal written methods to divide two decimals</p>	<p>To be able to substitute negative integers in to formulae and expressions</p> <p>To substitute into more complex formulae (including formulas used in science) (Powers, roots)</p> <p>To be able to derive expressions and formulae from worded and geometric problems</p>	<p>To be able to calculate surface area of cubes and cuboids</p> <p>To be able to work out volume of cubes and cuboids</p> <p>To work out the missing side (given the volume and area)</p>	<p>Be able to convert units of time (decimal hours and fractional hours)</p> <p>Be able to solve problems involving speed, distance and time</p> <p>Be able to convert units of speed</p>	<p>To be able to convert large and small ordinary numbers into standard form</p> <p>To be able to convert standard form numbers into ordinary numbers</p> <p>To be able expressing standard form in correct form</p> <p>Comparing and ordering numbers in standard form</p>	<p>Be able to solve equations with unknown</p> <p>Be able to solve equations with unknown on both sides</p> <p>Solve equations involving brackets</p> <p>Be able to form and solve equations using perimeter and angle rules</p>	Revision
	Tests	Open Book Assessment (D2/SG)		Open Book Assessment (Angles)	Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment

		31	32	33	34	35	36	37	38	39	
			Transformations	Transformations	Enlargement	Real life graphs					
activity... activity...	During Lesson	Revision	<p>To be able to reflect in any given line</p> <p>To be able to describe a reflection</p> <p>TO be able to rotate a shape around a given coordinate (not only the origin)</p> <p>TO be able to rotate a shape around a given coordinate (not only the origin)</p>	<p>To be able to describe a rotation</p> <p>To be able to translate a shape using a vector</p> <p>To be able to describe a translation</p>	<p>To be able to enlarge a shape by a positive scale factor</p> <p>To be able to enlarge a shape by positive, integer scale factor given a centre of enlargement</p> <p>To be able to describe an enlargement with positive scale factor</p> <p>To be able to describe an enlargement with positive scale factor</p>	<p>To be able to draw a conversion graph</p> <p>To be able to interpret a conversion graph</p> <p>To be able to read from a distance time graph</p> <p>To be able to find a gradient of a DT graph</p>	<p>Contingency week, and work on closing the knowledge gaps identified in EBCC assessment week</p>				
	Tests	Year 8 EBACC Assessment Weeks			Open Book Assessment (T/En)	Open Book Assessment					



TQEA Mathematics Department Year 8 Challenge Timeline 25-26

		1	2	3	4	5	6	7	8	9	10
		Place Value	FDP	Simplifying Algebra		Percentages		Percentages	Data	Ratio	Proportion
activity... activity...	During Lesson	<p>To round to significant figures and given decimal places</p> <p>To estimate answers to a calculation</p> <p>To write and calculate error intervals</p> <p>To use and understand truncation</p>	<p>To be able to convert between FDP fluently</p> <p>To be able to write a number as a fraction or a decimal of another number</p> <p>To be able to calculate percentage change (profit and loss)</p>	<p>To be able to distinguish the difference between an equation, expression, identity and formulae</p> <p>To be able to expand a single bracket including coefficients with powers e.g. $5x^2(x+3)$</p> <p>To be able to expand multiple single brackets and simplify</p> <p>To be able to factorise a single bracket including powers of x</p>	<p>To be able to expand two brackets to give a quadratic</p> <p>To factorise quadratics with a coefficient of a=1 and solve</p> <p>Expand triple brackets</p>	<p>To be able to calculate compound percentage of amounts without a calculator e.g. finding 22%, 83%</p> <p>To be able to calculate percentage increase and decrease using multipliers</p> <p>To be able to calculate reverse percentages</p>	Revision	<p>To calculate simple interest</p> <p>To be able to work out the time or multiplier from a compound interest</p> <p>Worded questions</p> <p>Deprecations</p>	<p>To interpret and draw two-way tables</p> <p>To calculate probability from frequency trees and two-way tables</p> <p>To be able to display grouped data (frequency diagram and frequency polygon)</p> <p>To be able to draw and interpret multiple bar charts and composite bar charts</p> <p>Problem solving for two way tables</p>	<p>To be able to use map scales</p> <p>To be able to use scale maps and bearings</p> <p>To solve ratio problems with numerical answers</p> <p>To solve ratio problems with algebra</p> <p>To be able to combine ratios</p> <p>To combine ratios and fractions</p>	<p>To be able to find the best buy item including special offers (problem solving)</p> <p>To be able to use direct proportion with recipes</p> <p>To use currency conversion</p> <p>To understand similar shapes and calculate missing lengths</p>
	Tests		Open Book Assessment (PV/FDP)		Open Book Assessment		Year 8 Assessment Week		Open Book Assessment	Open Book Assessment	

		11	12	13	14	15	16	17	18	19	20
		Proportion	Area and perimeter	Fractions	Graphs				Sequences		Indices
activity... activity...	During Lesson	<p>To be able to find volume and area similar shapes</p> <p>To work with inverse proportion</p> <p>To be able to draw and interpret proportion graphs</p>	<p>To be able to calculate the area of a trapezium</p> <p>To be able to calculate the area of Compound Shapes</p> <p>To be able to work out the area of a circle and a sector</p> <p>To be able to work out the circumference of a circle and an arc length</p> <p>To calculate area involving algebra and forming equations</p>	<p>To be able to add and subtract fractions with mixed numbers with different denominators</p> <p>To be able to multiply and divide fractions with mixed numbers</p> <p>To be able to add and subtract algebraic fractions</p> <p>To be able to multiply algebraic fractions</p> <p>To be able to divide algebraic fractions</p>	<p>To calculate the mid-point of a line plotted and without plotting</p> <p>To be able to plot and recognise graphs in the form $y=mx+c$</p> <p>To be able to Plot and recognise graphs in the form $ax+by=d$</p> <p>Be able to find the gradient from a graph</p> <p>Be able to find the gradient from a set of coordinates</p>	<p>To be able to plot and recognise quadratic graphs</p>	Revision	Revision	<p>To be able to generate a sequence from an algebraic rule</p> <p>To be able to find the nth term of a linear sequence</p> <p>To recognise and find missing terms in different types of sequences: arithmetic, geometric, quadratic, Fibonacci</p>	<p>To be able to generate a sequence from a quadratic rule</p> <p>To be able to work with algebra and sequences</p>	<p>To be able to use index laws</p> <p>To be able to use index laws for negative powers</p>
	Tests	Open Book Assessment (ratio and proportion)	Open Book Assessment	Open Book Assessment				Year 8 EBACC Assessment Weeks			Open Book Assessment (LG/Seq)



TQEA Mathematics Department Year 8 Challenge Timeline 25-26

		21	22	23	24	25	26	27	28	29	30
		Indices	Prime Factors	Data 2	Scatter graphs	Angles	Angles in polygons	Division	Standard form	Substitution	
activity... activity...	During Lesson	<p>To be able to use index laws for fractional powers</p> <p>Be able to use algebra and index laws</p>	<p>To be able to express numbers as a product of prime factors</p> <p>To be able to use Venn diagrams to calculate HCF and LCM</p> <p>To be able to solve problems solving questions with the LCM</p> <p>Be able to find the HCF and LCM from a venn diagram</p> <p>Worded questions and problem solving</p>	<p>To find averages from tabled and grouped and ungrouped data (estimated mean and modal class interval)</p> <p>To compare data using averages and spread</p> <p>To analysis misleading data and graphs</p> <p>Plot cumulative frequency graphs and find quartiles</p> <p>Plot box plots</p> <p>Recognise the difference between a histogram and bar chart</p>	<p>To plot scatter graphs and to understand correlation</p> <p>To interpret scatter graphs and to use line of best fit for extrapolation</p>	<p>To understand and use angle notation, basic angle rules with algebra (straight line, about a point)</p> <p>To use angles in parallel lines; corresponding, alternate, co-interior</p> <p>To solve multi step parallel lines problems</p> <p>Be able to find interior and exterior angles of polygons</p> <p>Use algebra to find the size of missing angles</p> <p>Problem solving questions, find the size of the angle when you have two shapes</p>	<p>To find the interior and exterior angles of any polygon</p> <p>To use the interior angle and exterior angle to find the number of sides of a polygon including using algebra</p> <p>To solve problems involving more than one polygon</p>	<p>To divide by an integer and divide two decimals by each other</p> <p>To understand the relationship between dividing by values greater than or less than 1.</p>	<p>To convert fluently between standard form and ordinary numbers</p> <p>To express in correct standard form and solve standard form problems with context</p> <p>To multiply and divide in standard form</p> <p>TO add and subtract in standard form</p>	<p>To substitute into more complex formulae (including formulas used in science)</p> <p>To substitute into formulas where rearrangement is needed</p> <p>Rearranging simple equations</p> <p>Rearranging more complex formula</p>	Revision
	Tests		Open Book Assessment (Ind./PF)		Open Book Assessment (data/SG)		Open Book Assessment (angle)		Open Book Assessment (D/SF)	Open Book Assessment	Year 8 EBACC Assessment Weeks

		31	32	33	34	35	36	37	38	39
			Volume and surface area	Volume and surface area	Compound measures	Solving equations	Transformations		Enlargement	Real Life Graphs
activity... activity...	During Lesson	Revision	<p>To calculate volume of cubes and cuboids and calculating missing lengths</p> <p>To calculate surface area of cubes and cuboids</p> <p>To calculate volume of prisms and cylinders</p>	<p>To calculate surface area of prisms and cylinders</p> <p>Find the area of cones and spheres</p> <p>Find the volume of cones and spheres</p> <p>Find the volume of frustrum's</p>	<p>To solve problems involving speed, distance and time (including converting units of time)</p> <p>To convert units of speed</p> <p>To solve problems involving multiple parts of a journey</p>	<p>To solve equations with unknowns on both sides (including negative coefficients)</p> <p>To solve and form equations involving brackets</p> <p>To solve and form equations with complex perimeter and angle rules</p>	<p>To reflect in any given line and to describe reflections</p> <p>To rotate/describe a shape at a given point</p> <p>To translate/describe using a vector</p>	<p>To combine transformations</p> <p>To enlarge and describe a shape by a positive scale factor given the centre of enlargement</p>	<p>To enlarge and describe a shape by a fractional scale factor given the centre of enlargement</p> <p>To enlarge a shape by a negative scale factor given the centre of enlargement</p>	<p>To draw and interpret a conversion graph</p> <p>To draw and read a distance time graph</p> <p>To find speed from a distance time graph and to find the average speed from a whole journey</p>
	Tests	Year 8 EBACC Assessment Weeks		Open Book Assessment	Open Book Assessment	Open Book Assessment			Open Book Assessment	Open Book Assessment



TQEA Mathematics Department Year 9 WR Timeline 25-26

		1	2	3	4	5	6	7	8	9	10
		Three Dimensional Shapes			Testing Conjectures	Straight Line Graphs		Numbers			Percentages
activity... activity...	During Lesson	Know names of 2D and 3D shapes Recognise prisms (including language of edges and vertices) Accurate nets of cuboids and other 3D shapes Sketch and recognise nets of cuboids and other 3D shapes	Plans and elevations Find area of 2D shapes (R) Surface area of cubes and cuboids Surface area of triangular prisms	Surface area of a cylinder Volume of cubes and cuboids Volume of other 3D shapes - prisms and cylinders Explore volumes of cones, pyramids and spheres (H)	True or false Always, sometimes, never true Show that Conjectures about number Expand a pair of binomials Conjectures with algebra Expand three binomials	Lines parallel to the axis, $y=x$ and $y=-x$ (R) Using tables of values (R) Compare gradients Compare intercepts Understand and use $y=mx+c$ Write an equation in the form $y=mx+c$ (H)	Find the equation of a line from a graph Interpret gradients and intercepts of real-life graphs Model real-life graphs involving inverse proportion (H) Explore perpendicular lines (H)	integers, real and rational numbers Understand and use surds (H) Work with directed number (R) Solve problems with integers Solve problems with decimals	HCF and LCM (R) Adding and subtracting fractions (R) Multiplying and dividing fractions (R) Solve problems with fractions Numbers in standard form (R)	Revision	Use the equivalence of fractions, decimals and percentages (R) Calculate percentage increase and decrease (R) Express a change as a percentage (R) Solve reverse percentage problems
	Tests			Open Book Assessment	Open Book Assessment		Open Book Assessment		Open Book Assessment	Open Book Assessment	Year 9 Assessment week

		11	12	13	14	15	16	17	18	19	20
		Percentages	Constructions and Congruency			Maths and Money	Maths and Money	Vectors		Deduction	Pythagoras
activity... activity...	During Lesson	Recognise and solve percentage problems (non-calculator) Recognise and solve percentage problems (calculator) Solve problems with repeated percentage change (H)	Draw and measure angles (R) Construct and interpret scale drawings (R) Locus of distance from a point Locus of distance from a straight line Locus equidistant from two points	Construct a perpendicular bisector Construct a perpendicular from a point Construct a perpendicular to a point Locus of distance from two lines Construct an angle bisector	Construct triangles from given information (R) Identify congruent figures Explore congruent triangles Identify congruent triangles	Solve problems with bills and bank statements Calculate simple interest Calculate compound interest	Solve problems with Value Added Tax Calculate wages and taxes Solve problems with exchange rates Solve unit pricing problems	Understand, represent, use and read vector notation draw and understand vectors multiplied by a scalar Draw and understand addition and subtraction of vectors	Explore vector journeys in shapes Explore quadrilaterals using vectors Understand parallel vectors Explore colinear points using vectors Angles in parallel lines (R)	Solve angle problems using chains of reasoning Angle problems with algebra Conjectures with angles Conjectures with shapes Link constructions and geometrical reasoning (H)	Squares and square roots (R) Identify the hypotenuse of a right-angled triangle Determine whether a triangle is right-angled Calculate the hypotenuse of a right-angled triangle
	Tests	Open Book Assessment			Open Book Assessment		Open Book Assessment		Open Book Assessment	Open Book Assessment	Open Book Assessment



TQEA Mathematics Department Year 9 WR Timeline 25-26

		21	22	23	24	25	26	27	28	29	30
		Pythagoras	Enlargement and Similarity			Trigonometry		Solving Ratio and Proportion		Rates	
activity... activity...	During Lesson	Calculate missing sides in right-angled triangles Use Pythagoras' theorem on coordinate axes Explore proofs of Pythagoras' theorem Use Pythagoras' theorem in 3D shapes (H)	Recognise enlargement and similarity Enlarge a shape by a positive integer scale factor Enlarge a shape by a positive integer scale factor from a point Enlarge a shape by a positive fractional scale factor	Enlarge a shape by a negative scale factor (H) Work out missing sides and angles in a pair of given similar shapes Solve problems with similar triangles (H) Explore ratios in right-angled triangles (H)	Revision	Work fluently with hypotenuse, opposite and adjacent Use tangent ratio to find missing lengths Use sine and cosine to find missing lengths find missing angles	work with key angles in right angles triangles Select the appropriate method to solve right angled triangles Use trigonometry in 3D shapes	Solve problems with direct proportion (R) Direct proportion and conversion graphs (R) Solve problems with inverse proportion Graphs of inverse relationships (H)	Solve ratio problems given the whole or a part (R) Solve best buy problems Solve problems involving ratio and algebra (H)	Solve speed, distance and time problems without a calculator Solve speed, distance and time problems with a calculator Use distance-time graphs	Solve problems with density, mass and volume Solve flow problems and their graphs Rates of change and their units Convert compound units
	Tests	Open Book Assessment		Open Book Assessment	Year 9 Assessment week		Open Book Assessment		Open Book Assessment		Open Book Assessment

		31	32	33	34	35	36	37	38	39
		Probability		Representing Solutions of Equations and Inequalities			Simultaneous Equations		Algebraic Representation	Working with Circles
activity... activity...	During Lesson	Single event probability (R) Relative frequency - including convergence Expected outcomes Independent events Use tree diagrams (H)	Use tree diagrams to solve without replacement problems (H) Use diagrams to work out probabilities	Understand the meaning of a solution Show / interpret inequalities on a number line Draw straight line graphs from a table Find solutions to equations using straight line graphs	Form and solve equations with unknowns on both sides form and solve more complex equations and inequalities Draw quadratic graphs	Revision	Solve a pair of simultaneous equation by substituting a known variable Solve a pair of simultaneous equations by substituting an expression	Solve a pair of sim equ using graphs Solve a pair of linear equations by adjusting one equation Solve a pair of linear equations by adjusting both equations Form and solve a pair of linear simultaneous equations	Draw and interpret cubic / exponential graphs Interpret graphs, including reciprocal and piece wise Represent inequalities	Recognise and label parts of a circle Calculate circumference and sector length Calculate area of circles and sectors Understand and use volume of cylinder and cones Understand and use volume of a sphere Understand and use surface area of cylinders and cones Understand surface area of spheres
	Tests		Open Book Assessment		Open Book Assessment	Year 9 Assessment week		Open Book Assessment	Open Book Assessment	Open Book Assessment



TQEA Mathematics Department Year 9 Support WR Timeline 25-26

		1	2	3	4	5	6	7	8	9	10
		Three Dimensional Shapes			Testing Conjectures	Straight Line Graphs		Numbers			Percentages
activity... activity...	During Lesson	Step 1 - Identify and name 2-D shapes Step 2 - Identify and name 3-D shapes Step 3 - Faces, edges and vertices Step 4 - Nets of cubes and cuboids	Step 5 - Nets of other 3-D shapes Step 6 - Plans and elevations Step 7 - Find the area of 2-D shapes Step 8 - Find the surface area of cubes and cuboids	Step 9 - Find the volume of cubes and cuboids by counting cubes Step 10 - Find the volume of cubes and cuboids	Step 1 - Factors and multiples Step 2 - Prime numbers Step 3 - Write a number as a product of its prime factors Step 4 - Create Venn diagrams Step 5 - Interpret Venn diagrams	Step 1 Plot and read coordinates in four quadrants Step 2 Lines parallel to the axes Step 3 Plot lines of the form $y = mx$	Step 4 Plot lines of the form $y = x + c$ Step 5 Plot lines of the form $y = mx + c$ Step 6 Plot lines of the form $x + y = a$, $y - x = a$ and $x - y = a$	Step 1 - Order of operations Step 2 - Four operations Step 3 - Four operations with decimals Step 4 - Addition and subtraction with fractions	Step 5 - Multiplication with fractions Step 6 - Divide a fraction by an integer Step 7 - Divide a fraction by a fraction	Revision	Step 1 - Fractions, decimals and percentages equivalence Step 2 - Find a percentage of an amount Step 3 - Find the whole given a percentage
	Tests			Open Book Assessment	Open Book Assessment		Open Book Assessment			Open Book Assessment	Year 9 Assessment week

		11	12	13	14	15	16	17	18	19	20
		Percentages	Constructions and Congruency			Maths and Money	Maths and Money	Vectors	Deduction		Pythagoras
activity... activity...	During Lesson	Step 4 - Increase or decrease an amount by a percentage Step 5 - Express one quantity as a percentage of another Step 6 - Solve percentage problems	Step 1 - Measure and draw angles up to 180° Step 2 - Measure and draw angles between 180° and 360° Step 3 - Draw circles and parts of circles	Step 4 - Draw SAS triangles Step 5 - Draw ASA triangles Step 6 - Draw SSS triangles	Step 7 - Understand congruency Step 8 - Recognise a pair of congruent triangles	Step 1 - Earnings Step 2 - Taxes Step 3 - Bills	Step 4 - Budgets Step 5 - Loans Step 6 - Holidays	Understand, represent, use and read vector notation draw and understand vectors multiplied by a scalar Draw and understand addition and subtraction of vectors	Step 1 - One-step angle problems Step 2 - Angles in triangles Step 3 - Angles in quadrilaterals Step 4 - Multi-step angle problems	Step 5 - Solve problems with angles and shapes Step 6 - Identify angles in parallel lines Step 7 - Solving problems with angles in parallel lines (with reasons)	Step 1 - Evaluate squares and square roots Step 2 - Solve equations with squares and square roots Step 3 - Identify the hypotenuse of a right-angled triangle
	Tests	Open Book Assessment			Open Book Assessment		Open Book Assessment	Open Book Assessment			Open Book Assessment



TQEA Mathematics Department Year 9 Support WR Timeline 25-26

	21	22	23	24	25	26	27	28	29	30
	Pythagoras	Enlargement and Similarity			Polygon Geometry		Solving Ratio and Proportion		Rates	
activity... activity...	<p>Step 4 - Calculate the hypotenuse of a right-angled triangle</p> <p>Step 5 - Calculate a shorter side of a right-angled triangle</p> <p>Step 6 - Calculate an unknown side in a right-angled triangle</p>	<p>Step 1 - Enlarge a shape on a grid</p> <p>Step 2 - Enlarge a shape about a point on a grid</p> <p>Step 3 - Enlarge a shape on coordinate axes</p>	<p>Step 4 - Describe an enlargement</p> <p>Step 5 - Recognise similar shapes</p> <p>Step 6 - Work out unknown lengths and angles</p>	Revision	<p>Step 1 - Exterior angles in regular polygons</p> <p>Step 2 - Interior angles in regular polygons</p>	<p>Step 3 - Angle problems in regular polygons</p> <p>Step 4 - Angle problems in any polygon</p>	<p>Step 1 - Direct proportion</p> <p>Step 2 - Conversion graphs</p> <p>Step 3 - Best buy problems</p>	<p>Step 4 - Sharing in a ratio</p> <p>Step 5 - Solving ratio problems</p> <p>Step 6 - Inverse proportion</p>	<p>Step 1 - Time</p> <p>Step 2 - Speed</p> <p>Step 3 - Speed, distance and time (non-calculator)</p> <p>Step 4 - Speed, distance and time (calculator)</p>	<p>Step 5 - Interpret distance-time graphs</p> <p>Step 6 - Draw distance-time graphs</p>
Tests	Open Book Assessment		Open Book Assessment	Year 9 Assessment week		Open Book Assessment		Open Book Assessment		Open Book Assessment

	31	32	33	34	35	36	37	38	39	
	Probability		Form and solve equations			Simultaneous Equations	Algebraic Representation		Working with Circles	
activity... activity...	<p>Step 1 - Single event probability</p> <p>Step 2 - Probabilities from Venn diagrams</p> <p>Step 3 - Probability of an event not happening</p>	<p>Step 4 - Probability experiments</p> <p>Step 5 - Expected outcomes</p>	<p>Step 1 - Solve 1-step and 2-step equations</p> <p>Step 2 - Solve equations with brackets</p> <p>Step 3 - Interpret inequalities</p>	<p>Step 4 - Represent inequalities</p> <p>Step 5 - Solve 1-step inequalities</p> <p>Step 6 - Solve 2-step inequalities</p>	Revision		<p>Step 1 - Expand brackets and simplify (numerical coefficient of bracket)</p> <p>Step 2 - Expand brackets (algebraic coefficient of bracket)</p>	<p>Step 3 - Expand double brackets</p> <p>Step 4 - Plot quadratic graphs</p>	<p>Step 1 - Find the circumference of a circle</p> <p>Step 2 - Find the area of a circle</p> <p>Step 3 - Find the area of composite shapes</p> <p>Step 4 - Volume of prisms</p> <p>Step 5 - Volume of cylinders</p>	
Tests		Open Book Assessment		Open Book Assessment	Year 9 Assessment week		Open Book Assessment	Open Book Assessment	Open Book Assessment	



TQEA Mathematics Department Year 10 Foundation Timeline 25-26

		1	2	3	4	5	6	7	8	9	10
		Basic number	Factors and Multiples	Rounding and estimating	Basic Algebra	Angles	Scales and bearings	Equations	Collecting and representing data		Further data
activity... activity...	During Lesson	<p>Apply the four operations, $+$, $-$, \times, \div to integers – both positive and negative</p> <p>Understand and use place value</p> <p>inverse operations</p> <p>Estimate answers</p> <p>Check calculations using approximation and estimation</p>	<p>Use the concepts and vocabulary of prime numbers, factors (divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation, and the unique factorisation theorem</p> <p>Apply systematic listing strategies</p>	<p>Round numbers and measures to an appropriate degree of accuracy</p> <p>Use inequality notation to specify simple error intervals due to truncation or rounding</p> <p>Apply and interpret limits of accuracy</p>	<p>Use conventional notation for priority of operations, including brackets, powers, roots and reciprocals</p> <p>Understand and use the concepts and vocabulary of expressions, equations, formulae, identities, inequalities, terms and factors</p> <p>Simplify and manipulate algebraic expressions by:</p> <p>collecting like terms</p> <p>multiplying a single term over a bracket</p> <p>taking out common factors</p>	<p>Use conventional terms and notations: points, lines, vertices, edges, planes, parallel lines, perpendicular lines, right angles, polygons, regular polygons and polygons with reflection and/or rotation symmetries</p> <p>Use the standard conventions for labelling and referring to the sides and angles of triangles</p> <p>Draw diagrams from written descriptions</p> <p>Apply the properties of:</p> <p>angles at a point, angles at a point on a straight line, vertically opposite angles, Understand and use alternate and corresponding angles on parallel lines</p>	<p>Use scale factors, scale diagrams and maps</p> <p>Measure line segments and angles in geometric figures, including interpreting maps and scale drawings and use of bearings</p>	<p>Substitute numerical values into formulae and expressions, including scientific formulae</p> <p>Solve linear equations in one unknown algebraically including those with the unknown on both sides of the equation</p>	<p>Interpret and construct tables, charts and diagrams, including frequency tables, bar charts, pie charts and pictograms for categorical data</p> <p>vertical line charts for ungrouped discrete numerical data</p> <p>tables and line graphs for time series data</p> <p>know their appropriate use</p> <p>Interpret, analyse and compare the distributions of data sets from univariate empirical distributions</p>	Revision	<p>Use and interpret scatter graphs of bivariate data</p> <p>Recognise correlation and know that it does not indicate causation</p> <p>Draw estimated lines of best fit</p> <p>Make predictions</p> <p>Interpolate and extrapolate apparent trends whilst knowing the dangers of doing so</p>
	Tests Reviews	Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment		Open Book Assessment



TQEA Mathematics Department Year 10 Foundation Timeline 25-26

		11	12	13	14	15	16	17	18	19	20
		FDP	Percentages	Fractions	Sequences	Co-ordinates and Linear Graphs	Perimeter and Circumference	Real Life Graphs	Area		Ratio and proportion
activity... activity...	During Lesson	<p>Order positive and negative decimals</p> <p>Apply the four operations, including formal written methods, to decimals – both positive and negative</p> <p>Understand and use place value (e.g. when calculating with decimals)</p>	<p>Define percentage as 'number of parts per hundred'</p> <p>Interpret percentages and percentage changes as a fraction or a decimal and interpret these multiplicatively</p> <p>Express one quantity as a percentage of another</p> <p>Compare two quantities using percentages</p> <p>Work with percentages greater than 100%</p> <p>Interpret fractions and percentages as operators</p>	<p>Order positive and negative fractions</p> <p>Apply the four operations, including formal written methods, to simple fractions (proper and improper) and mixed numbers - both positive and negative</p> <p>Calculate exactly with fractions</p>	<p>Generate terms of a sequence from either a term-to-term or a position-to-term rule</p> <p>Recognise and use:</p> <ul style="list-style-type: none"> sequences of triangular, square and cube numbers simple arithmetic progression, Fibonacci-type sequences, quadratic sequences, and simple geometric progressions (rn where n is an integer and r is a rational number > 0) <p>Deduce expressions to calculate the nth term of a linear sequence</p>	<p>Work with coordinates in all four quadrants</p> <p>Solve geometrical problems on coordinate axes</p> <p>Plot graphs of equations that correspond to straight-line graphs in the coordinate plane.</p> <p>Use the form $y = mx + c$ to identify parallel lines</p> <p>Find the equation of the line through two given points, or through one point with a given gradient</p> <p>Identify and interpret gradients and intercepts of linear functions graphically and algebraically</p>	<p>Identify properties of the faces, surfaces, edges and vertices of: cubes, cuboids, prisms, cylinders, pyramids, cones and spheres</p> <p>Calculate the perimeters of 2D shapes and composite shapes</p> <p>Calculate the area of composite shapes</p> <p>Find the surface area of pyramids and composite solids</p> <p>Know and apply formulae to calculate area of:</p> <ul style="list-style-type: none"> triangles parallelograms trapezia 	<p>Plot and interpret graphs (including reciprocal graphs) and graphs of non-standard functions in real contexts, to find approximate solutions to problems such as simple kinematic problems involving distance, speed and acceleration</p> <p>Interpret the gradient of a straight-line graph as a rate of change</p>	<p>Identify and apply circle definitions and properties, including centre, radius, chord, diameter, circumference, tangent, arc, sector and segment</p> <p>Calculate arc lengths, angles and areas of sectors of circles</p>	Revision	<p>Identify and work with fractions in ratio problems</p> <p>Express one quantity as a fraction of another, where the fraction is less than 1 or greater than 1</p> <p>Use ratio notation, including reduction to simplest form</p> <p>Divide a given quantity into two parts in a given part : part or part : whole ratio</p> <p>Express the division of a quantity into two parts as a ratio</p> <p>Apply ratio to real contexts and problems (such as those involving conversion, comparison, scaling, mixing and concentrations)</p> <p>Express a multiplicative relationship between two quantities as a ratio or a fraction</p> <p>Understand and use proportion as equality of ratios</p> <p>Relate ratios to fractions and to linear functions</p>
	Tests Reviews	Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment	Year 10 Assessment week

TQEA Mathematics Department Year 10 Foundation Timeline 25-26

		31	32	33	34	35	36	37	38	39	
		Algebra	Pythagoras Theorem	Trigonometry	Statistical measures			Constructions and Loci		Simultaneous Equations	
activity... activity...	During Lesson	<p>Understand and use standard mathematical formulae</p> <p>Rearrange formulae to change the subject</p> <p>Where appropriate, interpret simple expressions as functions with inputs and outputs</p> <p>Know the difference between an equation and an identity</p> <p>Argue mathematically to show algebraic expressions are equivalent, and use algebra to support and construct arguments</p>	<p>To be able to apply Pythagorean theorem to find the shorter side in a RAT</p> <p>To be able to apply Pythagorean theorem to find the hypotenuse in a RAT</p> <p>To be able to apply Pythagorean theorem to solve problems in RAT</p>	<p>Know the formula for the trigonometric ratios</p> <p>Apply them to find angles and lengths in right angled triangles and, where possible, general triangles in two and three dimensional figures</p> <p>Know the exact values of $\sin\theta$ and $\cos\theta$ for $\theta = 00, 300, 450, 600$ and 900</p> <p>Know the exact value of $\tan\theta$ for $\theta = 00, 300, 450, 600$</p>	<p>Interpret, analyse and compare the distributions of data sets from univariate empirical distributions through :</p> <p>appropriate measures of central tendency (median, mean, mode and modal class)</p> <p>spread (range, including consideration of outliers)</p> <p>Apply statistics to describe a population</p> <p>Infer properties of populations or distributions from a sample, whilst knowing the limitations of sampling</p>	Revision	Revision	<p>Use the standard ruler and compass constructions (perpendicular bisector of a line segment, constructing a perpendicular to a given line from/at a given point, bisecting a given angle)</p>	<p>Know that the perpendicular distance from a point to a line is the shortest distance to the line</p> <p>Use these to construct given figures and solve loci problems</p>	<p>Solve two simultaneous equations in two variables (linear/linear) algebraically</p> <p>Find approximate solutions using a graph</p> <p>Translate simple situations or procedures into algebraic expressions or formulae</p> <p>Derive two simultaneous equations, solve the equations and interpret the solution</p>	
	Tests Reviews	Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment	Year 10 Mock	Year 10 Mocks			Open Book Assessment	Open Book Assessment



TQEA Mathematics Department Year 10 Higher Timeline 25-26

		1	2	3	4	5	6	7	8	9	10
		Number, Factors & Multiples	Percentages	Algebra: Quadratics, rearranging formulae and identities	FDP	Sequences	Sequences	Angles, Scale Diagrams and Bearings	Properties of Polygons		Collecting and Representing Data
activity... activity...	During Lesson	Order positive and negative integers Use the symbols =, ≠, <, >, ≤, ≥ Apply the four operations, including formal written methods, to integers both positive and negative Understand and use place value inverse operations Estimate answers Check calculations using approximation and estimation	Solve problems involving percentage change, including : percentage increase/decrease problems original value problems simple interest, including in financial mathematics	Simplify and manipulate algebraic expressions (including those involving surds) by: expanding products of two or more binomials factorising quadratic expressions of the form $x^2 + bx + c$ including the difference of two squares factorising quadratic expressions of the form $ax^2 + bx + c$ simplifying expressions involving sums, products and powers, including the laws of indices	Understand and use standard mathematical formulae Rearrange formulae to change the subject Know the difference between an equation and an identity Where appropriate, interpret simple expressions as functions with inputs and outputs Interpret the reverse process as the 'inverse function' Interpret the succession of two functions as a 'composite function'	Order positive and negative decimals and fractions Apply the four operations, including formal written methods, to decimals and simple fractions (proper and improper), and mixed numbers - both positive and negative Understand and use place value (eg when calculating with decimals) Calculate exactly with fractions Work interchangeably with terminating decimals and their corresponding fractions	Generate terms of a sequence from either a term-to-term or a position-to-term rule Recognise and use: sequences of triangular, square and cube numbers simple arithmetic progression, Fibonacci-type sequences, quadratic sequences, simple geometric progressions other sequences Deduce expressions to calculate the nth term of linear and quadratic sequences	Use conventional terms and notations: points, lines, vertices, edges, planes, parallel lines, perpendicular lines, right angles, polygons, regular polygons and polygons with reflection and/or rotation symmetries Use the standard conventions for labelling and referring to the sides and angles of triangles Draw diagrams from written descriptions Apply the properties of: angles at a point, angles at a point on a straight line, vertically opposite angles Understand and use alternate and corresponding angles on parallel lines Use scale factors, scale diagrams and maps Measure line segments and angles in geometric figures, including interpreting maps and scale drawings and use of bearings	Derive and use the sum of angles in a triangle (eg to deduce and use the angle sum in any polygon, and to derive properties of regular polygons) Derive and apply the properties and definitions of: special types of quadrilaterals, including square, rectangle, parallelogram, trapezium, kite and rhombus and triangles and other plane figures using appropriate language	Revision	Interpret and construct tables, charts and diagrams, including: frequency tables, bar charts, pie charts and pictograms for categorical data vertical line charts for ungrouped discrete numerical data tables and line graphs for time series data And know their appropriate use
	Tests Reviews	Open Book Assessment	Open Book Assessment		Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment	Year 10 Assessment week



TQEA Mathematics Department Year 10 Higher Timeline 25-26

		11	12	13	14	15	16	17	18	19	20
		Collecting and Representing Data & Scatter Graphs	Perimeter and Area	Circumference and Area	Coordinates and Linear Graphs	Ratio and Proportion	Ratio and Proportion	Indices	Surds		Surds
activity... activity...	During Lesson	Interpret, analyse and compare the distributions through: appropriate graphical representation involving discrete, continuous and grouped data including boxplots draw and interpret scatter graphs describe correlation and relationships	Identify properties of the faces, surfaces, edges and vertices Calculate the perimeter of 2D shapes and composite shapes Find the surface area of pyramids and composite solids Know and apply formulae to calculate area of: triangles parallelograms trapezia	Identify and apply circle definitions and properties, Know and use the formulae: $Circumference = 2\pi r = \pi d$ $Area\ of\ a\ circle = \pi r^2$ Calculate the perimeters of 2D shapes including circles and composite shapes Calculate areas of circles and composite shapes Calculate surface area of spheres, cones and composite solids Calculate arc lengths, angles and areas of sectors	Work with coordinates in all four quadrants Solve geometrical problems on coordinate axes Plot graphs of equations that correspond to straight-line graphs in the coordinate plane. Use the form $y = mx + c$ to identify parallel and perpendicular lines Find the equation of the line through two given points, or through one point with a given gradient Identify and interpret gradients and intercepts of linear functions graphically and algebraically	Identify and work with fractions in ratio problems Express one quantity as a fraction of another, where the fraction is less than 1 or greater than 1 Use ratio notation, including reduction to simplest form Divide a given quantity into two parts in a given part : part or part : whole ratio	Express the division of a quantity into two parts as a ratio Apply ratio to real contexts and problems (such as those involving conversion, comparison, scaling, mixing and concentrations) Express a multiplicative relationship between two quantities as a ratio or fraction Understand and use proportion as equality of ratios Relate ratios to fractions and to linear functions	Use positive integer powers and associated real roots (square, cube and higher) Recognise powers of 2, 3, 4, 5 Estimate powers and roots of any given positive number Calculate with roots, and with integer and fractional indices	Calculate exactly with surds Simplify surd expressions involving squares (eg $\sqrt{12} = \sqrt{4 \times 3} = \sqrt{4} \times \sqrt{3} = 2\sqrt{3}$) and rationalise denominators Recognise and use simple geometric progressions (rn where n is an integer and r is a surd)	Revision	Calculate exactly with surds Simplify surd expressions involving squares (eg $\sqrt{12} = \sqrt{4 \times 3} = \sqrt{4} \times \sqrt{3} = 2\sqrt{3}$) and rationalise denominators Recognise and use simple geometric progressions (rn where n is an integer and r is a surd)
	Tests Reviews	Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment		Open Book Assessment	Open Book Assessment			Year 10 Assessment week



TQEA Mathematics Department Year 10 Higher Timeline 25-26

		21	22	23	24	25	26	27	28	29	30
		Probability	Standard Form	Measures	2D Representations of 3D Shapes	Transformations and Basic vectors		Further Equations and Graphs			Numerical Methods
activity... activity...	During Lesson	<p>Calculate expected outcomes or multiple future experiments</p> <p>Relate relative expected frequencies to theoretical</p> <p>Enumerate sets and combinations of sets systematically, using tables, grids, Venn diagrams and tree diagrams</p> <p>Calculate the probability of independent and dependent combined events, Calculate and interpret conditional probabilities</p>	<p>Understand and use place value (eg when working with very large or very small numbers)</p> <p>Calculate with and interpret standard from $A \times 10^n$ where $1 \leq A < 10$ and n is an integer</p>	<p>Apply and interpret limits of accuracy including upper and lower bounds</p> <p>Use standard units of measure and related concepts</p> <p>Use standard units of mass, length, time, money and other measures</p> <p>Change freely between related standard units</p> <p>Use compound units such as speed, rates of pay, unit pricing, density and pressure</p>	<p>Construct and interpret plans and elevations of 3D shapes</p>	<p>Identify, describe and construct congruent and similar shapes, including on coordinate axes, by considering rotation, reflection, translation and enlargement including fractional and negative scale factors</p>	<p>Describe translations as 2D vectors</p> <p>Describe the changes and invariance achieved by combinations of rotations, reflections and translations</p> <p>Adding and multiplying column vectors</p>	<p>Solve linear equations in one unknown algebraically (including those with the unknown on both sides of the equation)</p> <p>Find approximate solutions using a graph</p> <p>Solve quadratic equations (including those that require rearrangement) algebraically by factorising, by completing the square and by using the quadratic formula</p>	<p>Find approximate solutions using a graph</p> <p>Recognise, sketch and interpret graphs of linear and quadratic functions</p> <p>Identify and interpret roots, intercepts and turning points of quadratic functions graphically</p> <p>Deduce roots algebraically</p>	<p>Deduce turning points by completing the square</p> <p>Translate simple situations or procedures into algebraic expressions or formulae</p> <p>Derive an equation, solve the equation and interpret the solution</p>	<p>Find approximate solutions to equations numerically using iteration including the use of suffix notation</p>

	Tests Reviews	Open Book Assessment	Open Book Assessment		Open Book Assessment	Year 10 Mock	Year 10 Mocks	Open Book Assessment	Open Book Assessment	Open Book Assessment	
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TQEA Mathematics Department Year 11 Foundation Timeline 25-26

		1	2	3	4	5	6	7	8	9	10
		Volume	Quadratics, Rearranging Formulae and Identities	Probability		Vectors		Direct and Inverse Proportion		Solving Quadratic Equations	Algebra and graphs
activity... activity...	During Lesson	<p>Compare lengths, areas and volumes using ratio notation</p> <p>Know and apply formulae to calculate the volume of cuboids and other right prisms (including cylinders)</p> <p>Calculate the volume of spheres, pyramids, cones and composite solids</p>	<p>Understand and use standard mathematical formulae</p> <p>Rearrange formulae to change the subject</p> <p>Know the difference between an equation and an identity</p>	<p>Argue mathematically to show algebraic expressions are equivalent, and use algebra to support and construct arguments</p> <p>Where appropriate, interpret simple expressions as functions with inputs and outputs</p>	<p>Apply ideas of randomness, fairness and equally likely events to calculate expected outcomes or multiple future experiments</p> <p>Relate relative expected frequencies to theoretical probability, using appropriate language and the 0 to 1 probability scale</p>	<p>Understand that empirical unbiased samples tend towards theoretical probability distributions with increasing sample size</p> <p>Enumerate sets and combinations of sets systematically using tables, grids, Venn diagrams and tree diagrams</p> <p>Calculate the probability of independent and dependent combined events, including using tree diagrams and other representations, and know the underlying assumptions</p>	<p>Apply addition and subtraction of vectors, multiplication of vectors by a scalar, and diagrammatic and column representation of vectors</p>	<p>Solve problems involving direct and inverse proportion, including graphical and algebraic representations</p>	<p>Recognise and interpret graphs that illustrate direct and inverse proportion</p>	<p>Solve quadratic equations algebraically by factorising</p> <p>Find approximate solutions using a graph</p>	<p>Solve linear equations in one unknown algebraically</p> <p>Including those with the unknown on both sides of the equation</p> <p>Find approximate solutions using a graph</p>
	Tests Reviews	Open Book Assessment		Open Book Assessment			Year 11 Assessment week	Open Book Assessment		Open Book Assessment	Open Book Assessment



TQEA Mathematics Department Year 11 Foundation Timeline 25-26

		11	12	13	14	15	16	17	18	19	20
				Algebra and graphs	Quadratic Graphs		Growth and Decay				
activity... activity...	During Lesson	Revision	<i>Revision</i>	Translate simple situations or procedures into algebraic expressions or formulae Derive an equation (or two simultaneous equations), solve the equation(s) and interpret the solution	Recognise, sketch and interpret graphs of quadratic functions Identify and interpret roots, intercepts and turning points of quadratic functions graphically Deduce roots algebraically	<i>Mock review week</i>	Set up, solve and interpret the answers in growth and decay problems, including compound interest	<i>Revision Based on QLA from Mock 1</i>			
	Tests Reviews	Mock Exams	Mock Exams	Open Book Assessment	Open Book Assessment		Open Book Assessment				



TQEA Mathematics Department Year 11 Foundation Timeline 25-26

		21	22	23	24	25	26	27	28	29	30
activity...	During Lesson	<i>Revision</i>	<i>Revision</i>	<i>Revision Based on QLA from Mock 2</i>				<i>Revision Based on QLA from Mock 2</i>		<i>Revision</i>	<i>Revision</i>
	Tests	Mock Exams	Mock Exams							GCSE Final Exams	GCSE Final Exams
	Reviews										

		31	32	33	34	35	36	37	38	39
activity...	During Lesson	<i>Revision</i>	<i>Revision</i>	<i>Revision</i>	<i>Revision</i>					
	Tests	GCSE Final Exams	GCSE Final Exams	GCSE Final Exams	GCSE Final Exams					
	Reviews									

TQEA Mathematics Department Year 11 Higher Timeline 25-26

SS

		1	2	3	4	5	6	7	8	9	10
		Volume	Graphs	Numerical Methods	Circle Theorems		Transforming Functions	Algebraic Fractions	Direct and inverse Proportion	Probability	Gradients and rates of change
activity... activity...	During Lesson	Compare lengths, areas and volumes using ratio notation Scale factors calculate volume of cuboids and other right prisms Calculate the volume of spheres, pyramids, cones and composite solids	Recognise, sketch and interpret graphs of linear functions, quadratic functions, simple cubic functions, and the reciprocal function $y=1/x$ for $x \neq 0$, exponential functions $y = kx$ for positive values of k, and the trigonometric functions (with arguments in degrees) $y=\sin x$, $y=\cos x$ and $y=\tan x$ for angles of any size	Find approximate solutions to equations numerically using iteration including the use of suffix notation	Apply and prove the standard circle theorems concerning angles, radii, tangents and chords, and use them to prove related results angle at centre angle at circumference; angle in a semi-circle is 90° ; angles in the same segment are equal; opposite angles in a cyclic quadrilateral sum to 180° ; tangent at any point on a circle is perpendicular to the radius at that point tangents from an external point are equal in length; the perpendicular from the centre to a chord bisects the chord; alternate segment theorem		Sketch translations and reflections of a given function Inc $f(x)+a$ $f(x+a)$ $-f(x)$ $f(-x)$ $f(ax)$ $af(x)$	Simplify and manipulate algebraic expressions involving algebraic fractions	Solve problems involving direct and inverse proportion, including graphical and algebraic representations Construct and interpret equations that describe direct and inverse proportion Recognise and interpret graphs that illustrate direct and inverse proportion	Relate relative expected frequencies to theoretical probability, using appropriate language and the 0 – 1 probability scale Calculate the probability of independent and dependent combined events, including using tree diagrams and other representations, Calculate and interpret conditional probabilities through representation using expected frequencies with two-way tables, tree diagrams and Venn diagrams	Interpret the gradient at a point on a curve as the instantaneous rate of change Apply the concepts of average and instantaneous rates of change (gradients of chords and tangents) in numerical, algebraic and graphical contexts Interpret the gradient of a straight-line graph as a rate of change
	Tests Reviews	Open Book Assessment	Open Book Assessment	Open Book Assessment		Year 11 Assessment week		Open Book Assessment	Open Book Assessment	Open Book Assessment	Open Book Assessment

TQEA Mathematics Department Year 11 Higher Timeline 25-26

		11	12	13	14	15	16	17	18	19	20
				Area under a curve	Growth and decay		Inequalities				
activity... activity...	During Lesson	Revision	<i>Revision</i>	Calculate or estimate gradients of graphs and areas under graphs (including quadratic and other non-linear graphs) Interpret the results in cases such as distance-time graphs, velocity-time graphs and graphs in financial contexts	Set up, solve and interpret the answers in growth and decay problems, including compound interest and work with general iterative processes	<i>Mock review week</i>	Solve linear inequalities in one or two variable(s) and quadratic inequalities in one variable Represent the solution set on a number line, using set notation and on a graph	<i>Revision Based on QLA from Mock 1</i>			
	Tests Reviews	Mock Exams	Mock Exams	Open Book Assessment	Open Book Assessment		Open Book Assessment				

TQEA Mathematics Department Year 11 Higher Timeline 25-26

		21	22	23	24	25	26	27	28	29	30
activity...	During Lesson	<i>Revision</i>	<i>Revision</i>	<i>Revision Based on QLA from Mock 2</i>				<i>Revision Based on QLA from Mock 2</i>		<i>Revision</i>	<i>Revision</i>
	Tests Reviews	Mock Exams	Mock Exams							GCSE Final Exams	GCSE Final Exams

		31	32	33	34	35	36	37	38	39
activity...	During Lesson	<i>Revision</i>	<i>Revision</i>	<i>Revision</i>	<i>Revision</i>					
	Tests Reviews	GCSE Final Exams	GCSE Final Exams	GCSE Final Exams	GCSE Final Exams					