YEAR 10	Summer 2021				Higher	
DATES	**UNIT / LESSON**	**PRIOR KNOWLEDGE**	**GRADE FROM …**	**GRADE TO …**	**OBJECTIVES**	**Corbett**
19/04/2021	13.6 The cosine rule and 2D trigonometric problems	Use bearings Calculate the area of a triangle. Solve calculations.	7	9	Use the cosine rule to solve 2D problems. Solve bearings problems using trigonometry.	26/335/336
	13.7 Solving problems in 3D	Use the sine and cosine rule.	9	9	Use Pythagoras' theorem in 3D. Use trigonometry in 3D.	259 332
26/04/2021	13.8 Transforming trigonometric graphs 1	Reflect and rotate a coordiante point. Know the exact values of sin θ and cos θ for θ = 0°, 30°, 45° , 60° and 90°; know the exact value of tan θ for θ = 0°. 30°. 45° and 60° Sketch y = sinx, y = cosx and y= tanx for x from 0° to 360°	9	9	Recognise how changes in a function affect trigonometric graphs.	323/324
	13.9 Transforming trigonometric graphs 2	Translate coordinate points by column vectors. Understand negative translations.	9	9	Recognise how changes in a function affect trigonometric graphs.	
	14 Further statistics	Understand the different types of data: discrete/continuous. Have experience of inequality notation. Multiply a fraction by a number. Understand the data handling cycle.	3	9		
03/05/2021	14.1 Sampling	Use fractions and percentages to work out data from a table.	3	7	Understand how to take a simple random sample. Understand how to take a stratifi ed sample.	282 281
	14.2 Cumulative frequency	Find the median of a data set.	6	6	Draw and interpret cumulative frequency tables and diagrams. Work out the median, quartiles and interquartile range from a cumulative frequency diagram.	153/154
10/05/2021	14.3 Box plots	Find the median and range from a stem-and-leaf diagram.	6	6	Find the quartiles and the interquartile range from stem-and-leaf diagrams.	169/170 149/150
17/05/2021	14.4 Drawing histograms	Division calculations Draw a frequency diagram. Write the modal class Estimate the mean mass.	7	8	Understand frequency density. Draw histograms.	157
	14.5 Interpreting histograms	Write the modal class Estimate the mean mass.	8	9	Interpret histograms.	158/159
	14.6 Comparing and describing populations	Work out the mean, median and mode of data sets. Work out the mean and range from a table.	6	7	Compare two sets of data.	50, 53, 56, 57
END OF TERM 5 TEST						
	15 Equations and graphs	Solve quadratics and linear equations. Solve simultaneous equations algebraically.	3	9		
24/05/2021	15.1 Solving simultaneous equations graphically	Know and draw graphs of circles.	6	7	Solve simultaneous equations graphically.	297
	15.2 Representing inequalities graphically	Know which integers satisfy an inequality Solve inequalitites with one variable and show solution using set notation.	3	9	Represent inequalities on graphs. Interpret graphs of inequalities.	########
HALF TERM						
07/06/2021	15.3 Graphs of quadratic functions	Solve quadratic equations by factorising. Sketch simple quadratic graphs Find coordinates of maximum point.	5	9	Recognise and draw quadratic functions.	264,265
	15.4 Solving quadratic equations graphically	Understand manimum and minimum points. Find roots of an equation by completing the square and using the quadratic formula.	6	9	Find approximate solutions to quadratic equations graphically. Solve quadratic equations using an iterative process.	267c,267d
14/06/2021	15.5 Graphs of cubic functions	Know where a graph will cross the x-axis Expand and simplify double brackets Find roots of a quadratic equation by completing the square	7	9	Find the roots of cubic equations. Sketch graphs of cubic functions. Solve cubic equations using an iterative process.	373
	16 Circle theorems	Have practical experience of drawing circles with compasses. Recall the words, centre, radius, diameter, circumference, arc, sector and segment Recall the relationship of the gradient between two perpendicular lines. Find the equation of the straight line, given a gradient and a coordinate.	4	8		
21/06/2021	16.1 Radii and chords	Recall the properties of an isosceles triangle and the language of a circle. Use the basic congruence criteria for triangles (SSS, SAS, ASA, RHS).	4	9	Solve problems involving angles, triangles and circles. Understand and use facts about chords and their distance from the centre of a circle. Solve problems involving chords and radii.	
	16.2 Tangents	Recall that the line drawn from the centre of a circle to the midpoint of a chord is at right angles to the chord. Know that the sum of the angles in a triangle must be 180° Recall the correct maths language for parts of a circle	6	9	Understand and use facts about tangents at a point and from a point. Give reasons for angle and length calculations involving tangents.	65f 61
28/06/2021	16.3 Angles in circles 1	Recall simple maths facts. Recall the correct maths language for parts of a circle.	6	7	Understand, prove and use facts about angles subtended at the centre and the circumference of circles. Understand, prove and use facts about the angle in a semicircle being a right angle.	65b 65a

					Find missing angles using these theorems and give reasons for answers.	
	16.4 Angles in circles 2	Recall sum of angles of a triangle and a quadrilateral. Recall correct maths language for parts of a circle.	6	7	Understand, prove and use facts about angles subtended at the circumference of a circle. Understand, prove and use facts about cyclic quadrilaterals.	65b
						65d
					Prove the alternate segment theorem.	65e
05/07/2021	16.5 Applying circle theorems	Understand that $x^2 + y^2 = r^2$ is the equation of a circle with centre at the origin. Find the gradient of a line from its equation and know the gradient of a line perpendicular to it. Find the equation of the straight line, given a gradient and a coordinate. Recall circle theorems	6	8	Solve angle problems using circle theorems. Give reasons for angle sizes using mathematical language. Find the equation of the tangent to a circle at a given point.	65
						372
	17 More algebra	Simplify surds. Use negative numbers with all four operations. Add and multiply numeric fractions. Recall and use the hierarchy of operations. Manipulate algebraic expressions. Recall and use the quadratic formula.	5	9		
12/07/2021	17.1 Rearranging formulae	Substitute into linear equations. Change the subject of a formula. Factorise linear expressions.	6	8	Change the subject of a formula where the power of the subject appears. Change the subject of a formula where the subject appears twice.	7,8
19/07/2021	17.2 Algebraic fractions	Simplify numeric fractions and fractions containing simple algebraic terms. Add and multiply numeric fractions.	5	7	Add and subtract algebraic fractions. Multiply and divide algebraic fractions. Change the subject of a formula involving fractions where all the variables are in the denominators.	21
						22,23
	17.3 Simplifying algebraic fractions	Factorise expressions by identifying the common factor between two terms. Simplify fractions containing simple algebraic terms. Factorise quadratic expressions of the form x2 + bx + c	6	9	Simplify algebraic fractions.	24