YEAR 10	Summer 2022				Higher	
DATES	UNIT / LESSON	PRIOR KNOWLEDGE	GRADE FROM …	GRADE TO …	OBJECTIVES	Corbett
	15 Equations and graphs	Solve quadratics and linear equations. Solve simultaneous equations algebraically.	**3**	**9**		
20-Apr	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.	180,181,182
25-Apr	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
2-May	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**		
9-May	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
16-May	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. Find missing angles using these theorems and give reasons for answers.	65b 65a
	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. Prove the alternate segment theorem.	65b 65d 65e
23-May	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
HALF TERM						
	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**		
6-Jun	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
13-Jun	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
20 June 2022	17.4 More algebraic fractions	Simplify algebraic fractions by cancelling common factors. Add, subtract, divide and multiply fractions containing simple algebraic terms.	**6**	**9**	Add and subtract more complex algebraic fractions. Multiply and divide more complex algebraic fractions.	
27 June 2022	17.5 Surds	Decide whether each number is rational or irrational.	**7**	**9**	Simplify expressions involving surds. Expand expressions involving surds. Rationalise the denominator of a fraction.	305, 306, 307
04 July 2022	17.6 Solving algebraic fraction equations	Find the lowest common multiple of two algebraic fractions.	**7**	**9**	Solve equations that involve algebraic fractions.	

		Solve quadratic equations by factorising. Manipulate expressions containing simple algebraic fractions.				
11 July 2022	17.7 Functions	Calculate the output from a function machine for three different inputs. Solve simple equations Write expressions using function machines	**5**	**9**	Use function notation. Find composite functions. Find inverse functions.	369, 370
18 July 2022	17.8 Proof	Identify an odd number and an even number written algebraically. Recall the definitions of equations and identities.	**5**	**9**	Prove a result using algebra.	365
END OF TERM 6 TEST						