YEAR 10	Summer 2022				Foundation		
DATES	UNIT / LESSON	PRIOR KNOWLEDGE	GRADE FROM …	GRADE TO …	OBJECTIVES	Corbett	
	15 Constructions, loci and bearings	Measure and draw lines. Write a ratio in the form 1 : m and in its simplest form. Know the 8 points of the compass. Draw a net of a 3D shape. Know clockwise, anticlockwise. Identify congruent shapes.	**1**	**4**			
20-Apr	15.1 3D solids	Recall names of common 2D shapes.	**1**	**2**	Recognise 3D shapes and their properties. Describe 3D shapes using the correct mathematical words. Understand the 2D shapes that make up 3D objects.	3 4 5	names 3-d shapes nets faces, edges vertices
	15.2 Plans and elevations	Identify names of 2D shapes from faces of 3D solids. Recall names of common 3D shapes. Know the properties of special triangles and quadrilaterals.	**3**	**3**	Identify and sketch planes of symmetry of 3D shapes. Understand and draw plans and elevations of 3D shapes. Sketch 3D shapes based on their plans and elevations.		
	15.3 Accurate drawings 1	Understand of the meaning of 'congruence'. Draw lines, angles and circles accurately	**3**	**3**	Make accurate drawings of triangles using a ruler, protractor and compasses. Identify SSS, ASA, SAS and RHS triangles as unique from a given description. Identify congruent triangles	22 28 + 31 81,82,83	congruent shapes drawing + measuring angles construction ASA, SAS, SSS
25-Apr	15.4 Scale drawings and maps	Work out scale factor of an enlargement. Write a ratio in the form 1 : m, and write equivalent ratios. Convert between metric measurements of length.	**2**	**3**	Draw diagrams to scale. Correctly interpret scales in real-life contexts. Use scales on maps and diagrams to work out lengths and distances. Know when to use exact measurements and estimations on scale drawings and maps. Draw lengths and distances correctly on given scale drawings.	283/284 285	
	15.5 Accurate drawings 2	Knowledge of scale factors of enlargement. Identify a solid from its net.	**3**	**3**	Accurately draw angles and 2D shapes using a ruler, protractor and compasses. Construct a polygon inside a circle. Recognise nets and make accurate drawings of nets of common 3D objects.	73/74	
2-May	15.6 Constructions	Identify parallel and perpendicular lines. Draw lines accurately.	**4**	**4**	Draw accurately using rulers and compasses. Bisect angles and lines using rulers and compasses.	72/78	
	15.7 Loci and regions	Convert distances from map scale to real life distance and vice versa. Construct the perpendicular bisector.	**4**	**4**	Draw loci for the path of points that follow a given rule. Identify regions bounded by loci to solve practical problems.	75/76/77	
9-May	15.8 Bearings	Working out the complement to 180 or 360 (addition and subtraction). Recall the properties of angles at a point, angles on a straight line, alternate and corrsponding angles.	**2**	**4**	Find and use three-figure bearings. Use angles at parallel lines to work out bearings. Solve problems involving bearings and scale diagrams.	26/27	
	16 Quadratic equations and graphs	Square negative numbers. Substitute into formulae. Plot points on a coordinate grid. Expand single brackets and collect 'like' terms.	**3**	**5**			
16-May	16.1 Expanding double brackets	Be able to work out area of a shape using algebraic terms. Simplify algebraic expressions. Multiply a single term over brackets.	**3**	**4**	Multiply double brackets. Recognise quadratic expressions. Square single brackets.	13/14	
	16.2 Plotting quadratic graphs	Be able to square terms. Identify the equation of the mirror line. Copy and complete a table of values and plot a straight line graph.	**4**	**4**	Plot graphs of quadratic functions. Recognise a quadratic function. Use quadratic graphs to solve problems.	264/265	
23-May	16.3 Using quadratic graphs	Define the origin and x-axis on a graph. Copy and complete a table of values and plot a quadratic graph.	**4**	**5**	Solve quadratic equations ax2 + bx + c = 0 using a graph. Solve quadratic equations ax2 + bx + c = k Using a graph.	 266 267c	
HALF TERM							
6-Jun	16.4 Factorising quadratic expressions	Work out factor pairs of negative numbers Multiply double brackets.	**4**	**5**		219/118	
13-Jun	16.5 Solving quadratic equations algebraically	Know that taking the square root of a number will result in both a positive and a negative answer. Factorise quadratic expressions.	**4**	**4**		228 119/266	
	17 Perimeter, area and volume 2	Know the formula for calculating the area of a rectangle. Know how to use the four operations on a calculator. Name common 3D shapes. Define centre, radius and diameter for a circle. Substitute into formulae and solve for the unknown. Work out the volume of cuboids and prisms.	**2**	**5**			
20 June 2022	17.1 Circumference of a circle 1	Round accurately to a given number of significant figures or decimal place. Rearrange equations.	**3**	**3**	Calculate the circumference of a circle. Solve problems involving the circumference of a circle.	60	
	17.2 Circumference of a circle 2	Round to nearest metre. Solve equations. Understand inequality notation. Rearrange equations.	**2**	**3**	Calculate the circumference and radius of a circle. Work out percentage error intervals.		
	17.3 Area of a circle	Evaluate squares and square roots. Substitute into formulae and solve for the unknown.	**3**	**4**	Work out the area of a circle. Work out the radius or diameter of a circle. Solve problems involving the area of a circle. Give answers in terms of π.	59	
27 June 2022	17.4 Semicircles and sectors	Know number of degrees in a full turn, half turn or quarter turn. Simplify fractions. Find the area and circumference of a circle.	**3**	**5**	Understand and use maths language for circles and perimeters. Work out areas of semicircles and quarter circle and perimeters. Solve problems involving sectors of circles.	46, 58	
	17.5 Composite 2D shapes and cylinders	Know and use the formula for the volume of a prism. Sketch the net of a cylinder. Work out the area and perimeter of rectangles, semicircles and quarter circles. Give answers in terms of π.	**4**	**5**	Solve problems involving areas and perimeters of 2D shapes. Work out the volume and surface area of cylinders.	315, 357	
04 July 2022	17.6 Pyramids and cones	Understand and use maths language for 3-D shapes.	**4**	**5**	Work out the volume of a pyramid.	359, 360	

		Work out the area of 2D shapes. Give answers in terms of π.			Work out the surface area of a pyramid. Work out the volume of a cone. Work out the surface area of a cone.	
11 July 2022 18 July 2022	17.7 Spheres and composite solids	Know volume and surface area formulae. Work out the length of the hypotenuse using Pythagoras' theorem.	**5**	**5**	Work out the volume of a sphere. Work out the surface area of a sphere. Work out the volume and surface area of composite solids.	361
END OF TERM 6 TEST						