YEAR 10	Spring 2022		Higher			
DATES	UNIT / LESSON	PRIOR KNOWLEDGE	GRADE FROM …	GRADE TO …	OBJECTIVES	Corbett
	12 Similarity and congruence	Recognise and enlarge shapes and calculate scale factors. Know how to calculate area and volume in various metric measures. Measure lines and angles, and use compasses, ruler and protractor to construct standard constructions. Recognise congruent shapes. Know basic angle facts.	**3**	**9**		
3-Jan	12.1 Congruence	Know the angle sum of interior angles of a triangle. Recognise congruent shapes. Recall basic angle facts. Find missing lengths using Pythagoras' theorem.	**3**	**7**	Show that two triangles are congruent. Know the conditions of congruence.	67 66
	12.2 Geometric proof and congruence	Know the conditions of congruence and use correct mathematical notation for equal angles and sides. Recall the properties of special triangles and quadrilaterals.	**9**	**9**	Prove shapes are congruent. Solve problems involving congruence.	328
10-Jan	12.3 Similarity	Use geometric properties to find similarities and differences between given polygons. Calculate scale factors.	**3**	**6**	Use the ratio of corresponding sides to work out scale factors. Find missing lengths on similar shapes.	291 292
	12.4 More similarity	Find area scale factor, given length scale factor.	**6**	**8**	Use similar triangles to work out lengths in real life. Use the link between linear scale factor and area scale factor to solve problems.	293
17-Jan	12.5 Similarity in 3D solids	Work out the volume and surface area of a cube. Convert between metric units. Work out cubes and cube roots.	**6**	**9**	Use the link between scale factors for length, area and volume to solve problems.	293/4
	13 More trigonometry	Use axes and coordinates to specify points in all four quadrants. Recall and apply Pythagoras' Theorem and trigonometric ratios. Substitute into formulae.	**6**	**9**		
24-Jan	13.1 Accuracy	Find upper and lower bounds of a given measurement.	**7**	**8**	Understand and use upper and lower bounds in calculations involving trigonometry.	183/4
31-Jan	13.2 Graph of the sine function	Know the exact values of sin θ for θ = 30°, 45° , 60° and 90° Use Pythagoras' theorem. Find angles using the sin function.	**7**	**9**	Understand how to find the sine of any angle. Know the graph of the sine function and use it to solve equations.	341/338
	13.3 Graph of the cosine function	Know the exact values of cos θ for θ = 30°, 45° , 60° and 90° Use Pythagoras' theorem. Find angles using the cos function.	**7**	**9**	Understand how to find the cosine of any angle. Know the graph of the cosine function and use it to solve equations.	341/339
	13.4 The tangent function	Know the exact values of tan θ for θ = 30°, 45° , 60° Use Pythagoras' theorem. Find angles using the tan function.	**7**	**9**	Understand how to fi nd the tangent of any angle. Know the graph of the tangent function and use it to solve equations.	341/340
7-Feb	13.5 Calculating areas and the sine rule	Calculate the area of a triangle using (1/2)b × h Know the formula for calculating the area of a circle. Use trigonometry	**6**	**9**	Find the area of a triangle and a segment of a circle. Use the sine rule to solve 2D problems.	46/337
14-Feb	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
HALF TERM						
28-Feb	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**		
7-Mar	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-Mar	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
21-Mar	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
28-Mar	14.4 Drawing histograms	Division calculations	**7**	**8**	Understand frequency density.	149/150 157

		Draw a frequency diagram. Write the modal class Estimate the mean mass.			Draw histograms.	
	14.5 Interpreting histograms	Write the modal class Estimate the mean mass.	**8**	**9**	Interpret histograms.	158/159
4-Apr	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						