

YEAR 10 Spring 2022		Foundation			Corbett
DATES	UNIT / LESSON	PRIOR KNOWLEDGE	GRADE FROM ...	GRADE TO ...	OBJECTIVES
	<b>12 Right-angled triangles</b>	Rearrange simple formulae and equations, as preparation for rearranging trigonometric formulae. Recall basic angle facts. Understand when to leave an answer in surd form. Plot coordinates in all four quadrants and draw axes. Round to a specified degree of accuracy.	2	5	
3-Jan	12.1 Pythagoras' theorem 1	Calculate of simple squares and square roots. Substitute into and evaluate expressions. Round answers to a specified degree of accuracy.	2	4	Understand Pythagoras' theorem. Calculate the length of the hypotenuse in a right-angled triangle. Solve problems using Pythagoras' theorem.
10-Jan	12.2 Pythagoras' theorem 2	Understand the meaning of $\neq$ . Interpret a surd expression shown on the calculator display. Identify the hypotenuse, and calculate its length.	4	5	Calculate the length of a line segment AB. Calculate the length of a shorter side in a right-angled triangle.
17-Jan	12.3 Trigonometry: the sine ratio 1	Simplify fractions. Convert fractions to decimals using a calculator.	3	5	Understand and recall the sine ratio in right-angled triangles. Use the sine ratio to calculate the length of a side in a right-angled triangle. Use the sine ratio to solve problems.
	12.4 Trigonometry: the sine ratio 2	Calculate the sine of an angle in a right-angled triangle. Use the sin key on a calculator.	3	5	Use the sine ratio to calculate an angle in a right-angled triangle. Use the sine ratio to solve problems.
24-Jan	12.5 Trigonometry: the cosine ratio	Identify the hypotenuse and adjacent side in a right-angled triangle.	3	5	Understand and recall the cosine ratio in right-angled triangles. Use the cosine ratio to calculate the length of a side in a right-angled triangle. Use the cosine ratio to calculate an angle in a right-angled triangle. Use the cosine ratio to solve problems.
	12.6 Trigonometry: the tangent ratio	Identify the opposite and adjacent sides in right-angled triangles.	3	5	Understand and recall the tangent ratio in right-angled triangles. Use the tangent ratio to calculate the length of a side in a right-angled triangle. Use the tangent ratio to calculate an angle in a right-angled triangle. Solve problems using an angle of elevation or depression.
31-Jan	12.7 Finding lengths and angles using trigonometry	Identify the sine, cosine and tangent ratios.	4	5	Understand and recall trigonometric ratios in right-angled triangles. Use trigonometric ratios to solve problems. Know the exact values of the sine, cosine and tangent of some angles.
	<b>13 Probability</b>	Add and multiply fractions and decimals. Have experience of expressing one number as a fraction or percentage of another number. Convert between fractions, decimals and percentages. Understand the terms impossible, unlikely, even chance, likely, certain. Calculate theoretical probabilities for simple situations, e.g. spinner landing on a given colour.	2	5	
7-Feb	13.1 Calculating probability	Write probability as a fraction, a decimal and a percentage. Add and subtract fractions.	2	3	Calculate simple probabilities from equally likely events. Understand mutually exclusive and exhaustive outcomes.
	13.2 Two events	List outcomes. Simplify fractions.	3	3	Use two-way tables to record the outcomes from two events. Work out probabilities from sample space diagrams.
14-Feb	13.3 Experimental probability	Convert fractions, decimals and percentages. Compare fractions. Understand theoretical probability (single event). Use two-way tables.	2	4	Find and interpret probabilities based on experimental data. Make predictions from experimental data.
	13.4 Venn diagrams	Add and subtracting equivalent fractions. List primes and multiples. Calculate probabilities.	2	3	Use Venn diagrams to work out probabilities. Understand the language of sets and Venn diagrams.
HALF TERM					
28-Feb	13.5 Tree diagrams	Calculate with fractions. List the possible outcomes for two events. Work out the probability of something not happening. Calculate probabilities.	3	5	Use frequency trees and tree diagrams. Work out probabilities using tree diagrams. Understand independent events.
7-Mar	13.6 More tree diagrams	Calculate with and simplify fractions. Work out probabilities using tree diagrams.	3	5	Understand when events are not independent. Solve probability problems involving events that are not independent.
	<b>14 Multiplicative reasoning</b>	Interpret scales on a range of measuring instruments. Convert between metric measures. Understand ratio notation, and be able to write a ratio in its simplest form. Find a percentage of an amount and relate percentages to decimals. Rearrange equations and use these to solve problems. Know speed = distance/time, density = mass/volume. Find the equation of a line from a graph. Identify a graph showing direct proportion.	3	5	
14-Mar	14.1 Percentages	Convert percentages to decimals.	4	4	Calculate a percentage profit or loss.

		Express one number as a percentage of another. Work out percentage increases and decreases.			Express a given number as a percentage of another in more complex situations. Find the original amount given the final amount after a percentage increase or decrease	240
	14.2 Growth and decay	Write powers of numbers in index form. Relate percentages to decimals.	4	4	Find an amount after repeated percentage change. Solve growth and decay problems.	239
21-Mar	14.3 Compound measures	Understand 'rate' as a mathematical concept. Substitute into and solve equations. Rearrange equations. Convert between metric units of volume. Calculate the area of a trapezium. Calculate the volume of a prism.	3	4	Solve problems involving compound measures.	347
	14.4 Distance, speed and time	Find speed in km/h, given distance travelled in minutes. Convert between metric units of length.	3	4	Convert between metric speed measures. Calculate average speed, distance and time. Use formulae to calculate speed and acceleration.	299
28-Apr	14.5 Direct and inverse proportion	Identify graphs showing direct proportion. Write a ratio as a unit ratio.	3	5	Use ratio and proportion in measures and conversions. Use inverse proportions.	254
<b>END OF TERM 5 TEST</b>						