YEAR 11	Edexcel GCSE (9-1) Mathematics		
TERM	**UNIT / LESSON**	**PRIOR KNOWLEDGE**	**LEARNING INTENTIONS**
Key: Italic specification references are assumed prior knowledge and are covered in the prior knowledge check rather than the main teaching.			
AUTUMN 1	**6 Angles**		
Wk 1 04/09/2024	6.1 Properties of shapes	Identify lines of symmetry and rotational symmetry in 2D shapes. Draw angles. Know that the angles in a quadrilateral sum to 360°.	Solve geometric problems using side and angle properties of quadrilaterals. Identify congruent shapes.
	6.2 Angles in parallel lines	Identify parallel and perpendicular lines. Identify acute and obtuse angles. List the multiples of a given number.	Understand and use the angle properties of parallel lines. Find missing angles using corresponding and alternate angles. Find factors and multiples of numbers.
	10 Transformations	Recall basic shapes. Be able to plot points in all four quadrants. Understand the concept of rotation. Reflect a shape in a mirror line. Translate a shape on a squared grid using instructions such as left/right and up/down. Draw and recognise lines parallel to axes and $y = x$, $y = -x$. Understand the terms 'clockwise' and 'anticlockwise'.	
Wk 2 09/09/2024	10.1 Translation	Use the words left and right List the four types of transformations Describe translations using left/right and up/down.	Translate a shape on a coordinate grid. Use a column vector to describe a translation.
	10.2 Reflection	Define the word perpendicular Reflect a shape in a mirror line.	Draw a reflection of a shape in a mirror line. Draw reflections on a coordinate grid. Describe reflections on a coordinate grid.
	10.3 Rotation	Know the number of degrees in fractions of a turn. Use the words clockwise and anticlockwise.	Rotate a shape on a coordinate grid. Describe a rotation.
	10.4 Enlargement	Find scale factor from object to image and from image to object.	Enlarge a shape by a scale factor. Enlarge a shape using a centre of enlargement.
Wk 3 16/09/2024	10.5 Describing enlargements	Recognise the properties of enlargements. Simplify fractions.	Identify the scale factor of an enlargement. Find the centre of enlargement.

			Describe an enlargement.
	10.6 Combining transformations	State key information for describing transformations. Identify the type of transformation used.	Transform shapes using more than one transformation. Describe combined transformations of shapes on a grid.
		Understand that parallel lines have the same gradient. Draw a line with a given gradient.	Find the equations of straight-line graphs. Sketch graphs given the values of m and c.
	12 Right-angled triangles	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.	
Wk 4 23/09/2024	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.	Understand Pythagoras' theorem. Calculate the length of the hypotenuse in a right-angled triangle. Solve problems using Pythagoras' theorem.
	12.2 Pythagoras' theorem 2	Understand the meaning of ≠. Interpret a surd expression shown on the calculator display. Identify the hypotenuse, and calculate its length.	Calculate the length of a line segment AB. Calculate the length of a shorter side in a right-angled triangle.
Wk 5 30/09/2024	12.3 Trigonometry: the sine ratio 1	Simplify fractions. Convert fractions to decimals using a calculator.	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 sine key on a calculator.	Use the sine ratio to calculate an angle in a right-angled triangle. Use the sine ratio to solve problems.
	12.5 Trigonometry: the cosine ratio	Identify the hypotenuse and adjacent side in a right-angled triangle.	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.	Understand and recall the tangent ratio in right-angled triangles. Use the tangent ratio to calculate the length of a side in a right-anglesd triangle
			Use the tangent ratio to calculate an angle in a right-angled triangle. Solve problems using an angle of elevation or depression.
	12.7 Finding lengths and angles using trigonometry	Identify the sine, cosine and tangent ratios.	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.
	13 Probability	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.	
Wk 6 07/10/2024	13.1 Calculating probability	Write probability as a fraction, a decimal and a percentage. Add and subtract fractions.	Calculate simple probabilities from equally likely events. Understand mutually exclusive and exhaustive outcomes.
	13.2 Two events	List outcomes. Simplify fractions.	Use two-way tables to record the outcomes from two events. Work out probabilities from sample space diagrams.
	13.3 Experimental probability	Convert fractions, decimals and percentages. Compare fractions. Understand theoretical probability (single event). Use two-way tables.	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.	Use Venn diagrams to work out probabilities. Understand the language of sets and Venn diagrams.

Wk 7 14/10/2024	13.5 Tree diagrams	Calculate with fractions. List the possible outcomes for two events. Work out the probability of something not happening. Calculate probabilities.	Use frequency trees and tree diagrams. Work out probabilities using tree diagrams. Understand independent events.
	13.6 More tree diagrams	Calculate with and simplify fractions. Work out probabilities using tree diagrams.	Understand when events are not independent. Solve probability problems involving events that are not independent.
	14 Multiplicative reasoning		
		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.	
Wk 8 21/10/2024	14.1 Percentages	Convert percentages to decimals. Express one number as a percentage of another. Work out percentage increases and decreases.	Calculate a percentage profit or loss. 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
	14.2 Growth and decay	Write powers of numbers in index form.	Find an amount after repeated percentage change.
		Relate percentages to decimals.	Solve growth and decay problems.
	HALF TERM HOLIDAY		