Curriculum Overview Year 11 - Higher

Year 11: Module 17: Combined Events

Support (Prior knowledge from year 10)	Core	Extension
▪ I can calculate simple probabilities ▪ I understand what is meant by relative frequency. ▪ I know how to calculate expected probabilities. ▪ work out the probability of different outcomes of combined events. ▪ I can work out probabilities from diagrams such as two-way tables and stem and leaf diagrams	▪ I can work out the probability of two outcomes or events occurring at the same time. ▪ I can interpret and draw frequency tree diagrams* and probability tree diagrams. ▪ I can use tree diagrams to work out the probability of combined events. ▪ I can use the connectors 'and' and 'or' to work out the probabilities for combined events. ▪	▪ I understand what is meant by conditional probability ▪ I can work out the probability of combined events when the probabilities change after each event. ▪ I can use Venn diagrams and tree diagrams to solve conditional probability questions.

Year 11: Module 18: Properties of Circles

Support (Prior knowledge from year 10)	Core	Extension
▪ I can find missing angles in triangles ▪ I can find missing angles in quadrilaterals ▪ I can find missing angles in parallel lines. ▪ I can work out the size of angles in circles.	▪ I can find the size of angles in cyclic quadrilaterals. ▪ I can use tangents and chords to find the size of angles in circles. ▪ I can use the alternate segment theorem to find the size of angles in circles.	▪ I can prove the circle theorems. ▪ I can find the equation of a tangent to a circle at a given point*, by: ▪ finding the gradient of the radius that meets the circle at that point (circles all centre the origin); ▪ finding the gradient of the tangent perpendicular to it; ▪ using the given point; ▪ I can recognise and construct the graph of a circle using $x^2 + y^2 = r^2$ for radius r centred at the origin of coordinates. ▪

Curriculum Overview Year 11 - Higher

Year 11: Module 19: Proportionality		
Support (Prior knowledge from year 10)	**Core**	**Extension**
▪ I can solve problems using ratio and proportion ▪ I can substitute into expressions. ▪ I can rearrange equations. ▪ I understand what is meant by direct proportion.	▪ I can solve problems where two variables have a directly proportional relationship. ▪ I can work out the constant of proportionality when variables are directly proportional. ▪ I can solve problems where two variables have an inversely proportional relationship. ▪ I can work out the constant of proportionality when variables are inversely proportional. ▪ I can describe direct and inverse proportion relationships using an equation.	▪ I can recognise graphs showing direct and inverse proportion and interpret the gradient of the straight line. ▪ I can solve direct and inverse proportion problems in context.

Year 11: Module 20: Further Pythagoras and Trigonometry		
Support (Prior knowledge from year 10)	**Core**	**Extension**
▪ I can use Pythagoras to find missing sides of a triangle ▪ I can use SOH CAH TOA to find missing angles and sides in right-angled triangles ▪ I can solve worded Pythagoras and Trigonometric problems.	▪ I can use trigonometric ratios and Pythagoras' theorem to solve more complex two-dimensional problems. ▪ I can use trigonometric ratios and Pythagoras' theorem to solve more complex three-dimensional problems. ▪ I can sketch the graphs of sin, cos and tan.	▪ I can find the sine, cosine and tangent of any angle from 0° to 360°* ▪ I can work out and remember trigonometric values for angles of 30°, 45°, 60° and 90°.* ▪ I can use the sine rule and the cosine rule to find sides and angles in any triangle. ▪ I can work out the area of a triangle if you know two sides and the included angle.

Year 11: Module 21: Further Graphs		
Support (Prior knowledge from year 10)	**Core**	**Extension**
▪ I can interpret distance-time graphs. ▪ I can plot and interpret real-life graphs ▪ I can draw a graph of the depth of liquid as a container is filled. ▪ I can plot and interpret linear and quadratic graphs. ▪ I can calculate the gradient of a line segment.	▪ I can read information from a velocity-time graph and use it to work out the distance travelled. ▪ I can work out the acceleration from a velocity-time graph. ▪ I can recognise and plot cubic, exponential and reciprocal graphs. ▪ I can use cubic and reciprocal graphs to find solutions to equations. ▪ I can transform the graph of any function $f(x)$ including: $f(x) + a$, $f(x + b)$, $-f(x)$ and $f(-x)$ where a and b are integers ▪ I can recognise transformations of functions and be able to write down the function of a transformation given the original function.	▪ I understand what is meant by 'rates of change' ▪ I can use areas of rectangles, triangles and trapeziums to estimate the area under a curve.* ▪ I can interpret the meaning of the area under a curve.* ▪ I can draw a tangent at a point on a curve and use it to work out the gradient at a point on a curve.* ▪ I can interpret the gradient at a point on a curve.* ▪ I can carry out transformations of the graph $y = f(x)$

Curriculum Overview Year 11 - Higher

Year 11: Module 22: Algebraic Fractions and Functions		
Support (Prior knowledge from year 10)	**Core**	**Extension**
▪ I can carry out the four operations with fractions. ▪ I can solve linear equations. ▪ I can solve quadratic equations. ▪ I can solve simultaneous equations ▪ I can simplify fractions.	▪ I can simplify algebraic fractions ▪ I can solve equations containing algebraic fractions. ▪ I can change the subject of a formula where the subject occurs more than once. ▪ I can find an approximate solution for an equation using the process of iteration. ▪ I can solve algebraic fractions that involve solving quadratic equations.	▪ I understand what is meant by a function and understand function notation. ▪ I can find the output of a function.* ▪ I can find the inverse function.* ▪ I can find the composite of two functions.

Year 11: Module 23: Vector Geometry		
Support (Prior knowledge from year 10)	**Core**	**Extension**
▪ I can understand and use vector notation for translations ▪ I can use column vector notation to describe a translation in 2D.	▪ I can understand and use vector notation ▪ I can calculate and represent graphically the sum of two vectors, the difference of two vectors and a scalar multiple of a vector ▪ I can calculate the resultant of two vectors ▪ I can understand and use the commutative and associative properties of vector addition. ▪ I can solve simple geometrical problems in 2D using vector methods ▪	▪ I can apply vector methods for simple geometric proofs ▪ I can recognise when lines are parallel using vectors ▪ I can recognise when three or more points are co-linear using vectors ▪ I can use vectors to show three or more points are collinear. ▪ I can solve and prove more difficult geometric problems using vectors