

Year 11 - Higher tier endpoints

Expand triple brackets
Draw and interpret a Cumulative frequency diagram
Draw and interpret histograms
Factorising
lin/lin
Find missing lengths in similar shapes
Solve problems involving similar frustums
Know the relationships between linear, area and volume scale factors of mathematically similar shapes and solids
Prove congruence
Recognise graphs for direct and inverse proportion
Set up and solve direct proportion formula including powers and roots
Set up and solve inverse proportion formula including powers and roots
Solve problems which involve writing one proportion formula as another
Know and apply the Sine rule in 2d
Know and apply the Cosine rule in 2d
Know and apply the area = $\frac{1}{2}ab\sin C$
Using exact values
Understand the language of planes in 3d
Use the sine rule and cosine rule in 3d shapes
Find the diagonal of a cuboid
Find the angle between the plane and a line
Know circle theorems
Apply circle theorems to find a missing angle
Prove circle theorems
Rationalise a denominator
Simplify algebraic fractions
Apply 4 operations to algebraic fractions
Solve quadratic equations arising from algebraic fractions
Rearrange where subject appears more than once
Solve show that/prove that consecutive integers
Use function notation
Find numerical and algebraic composite functions
Find the inverse function
Find the equation of a tangent to a circle at a given point
Recognise & construct the graph of a circle
Sketch a quadratic graph using key points identified algebraically
Identify from a graph if a quadratic has real roots
Find approximate solutions to quadratic equations
Use iteration with simple converging sequences
Solve simultaneous equations graphically
Solve quadratic inequalities in one variable
Represent the solution set for inequalities using set notation
Show the solution set of several inequalities on a graph
Recognise and sketch trig graphs
Apply transformations of $f(x)$ to $-f(x)$ and $f(-x)$
Apply transformations of $f(x)$ to $af(x)$ and $f(ax)$
Apply transformations of $f(x)$ to $f(x)+a$ and $f(x + a)$

Recognise, sketch and interpret reciprocal and exponential graphs; Set up, solve and interpret growth and decay problems
Estimate area under a quadratic or other graph by dividing it into trapezia Interpret the gradient of non-linear graph in curved distance–time and velocity–time graphs
Understand and use vector notation Represent vectors, combinations of vectors and scalar multiples in the plane pictorially Find the length of a vector using Pythagoras' Theorem Calculate the resultant of two vectors.
Solve geometric problems in 2D where vectors are divided in a given ratio Produce geometrical proofs to prove points are collinear and vectors/lines are parallel. Estimate the acceleration at one point in time, from the tangent Interpret gradients and rates of change in different contexts