

## Year 11 Higher Scheme of learning 2022-2023 - Term 1

*Stretch key learning in italics*

Topic	Key learning	MathsWatch Clip No	☹	☺	😊
Reciprocal & Exponential graphs Gradient & Area under a curve	Recognise, sketch and interpret graphs of reciprocals	<b>161</b>			
	Recognise, sketch and interpret graphs of exponential functions	<b>194</b>			
	Set up, solve and interpret the answers in growth and decay problems				
	Estimate the area under a quadratic or other graph by dividing it into trapezia	<b>216</b>			
	Estimate the gradient of a quadratic or non-linear graph at a given point by sketching the tangent	<b>216</b>			
	Interpret the area under a linear or non-linear graph in real-life context	<b>216</b>			
	<i>Interpret the rate of change of graphs of containers</i>				
Similarity & Congruency	Understand and use SSS, SAS, ASA and RHS to prove congruency	<b>166,</b>			
	Prove that 2 shapes are similar	<b>200</b>			
	Understand the effect of enlargement on angles, perimeter, area and volume	<b>200</b>			
	Know the relationships between enlargement- area and volume	<b>200</b>			
	<i>Solve problems involving frustrums of cones using similar triangles</i>	<b>172</b>			
Quadratic Inequalities	Solve quadratic inequalities in one variable by factorising	<b>212</b>			
Vectors & Geometry proof	Understand and use vector notation	<b>174</b>			
	Calculate the sum, difference and scalar multiple of a vector	<b>219</b>			
	Find the length of vector using Pythagoras' Theorem	<b>219</b>			
	Solve geometric problems in 2D where vectors are divided in a given ratio	<b>219</b>			
	Produce geometric proofs to prove points are collinear and vectors/ lines are parallel	<b>219</b>			
October Half Term					
Iteration	Use iteration with simple converging sequences	<b>179 &amp; 180</b>			
Revision (1 week)					
Mocks (2 weeks)					
Trig Graphs and Graphs of Trigonometric functions	Recognise, sketch and interpret graphs of the trigonometric functions	<b>195a, 195b</b>			
	Know exact values of $\sin \theta$ and $\cos \theta$ for $\theta = 0^\circ, 30^\circ, 45^\circ, 60^\circ$ and $90^\circ$ and exact value of $\tan \theta$ for $\theta = 0^\circ, 30^\circ, 45^\circ$ and $60^\circ$ and find them from graphs.	<b>173</b>			
	Apply to the graph of $y = f(x)$ the transformations $y = -f(x)$ , $y = f(-x)$ for sine, cosine and tan functions $f(x)$ .	<b>196a, 196b</b>			
	<i>Apply to the graph of <math>y = f(x)</math> the transformations <math>y = f(x) + a</math>, <math>y = f(x + a)</math> for sine, cosine and tan functions <math>f(x)</math>.</i>	<b>196a, 196b</b>			
Quadratic Sequences	<i>Find the <math>n</math>th term of a quadratic sequence</i>				
Proof Revision	<i>Solve proof questions using consecutive integers</i>	<b>193</b>			
Christmas					