<u>GCSE Mathematics</u> <u>Autumn 1 Revision List (Higher)</u>



24th May:Paper 1 - Non-Calculator7th June:Paper 2 - Calculator

12th June: Paper 3 – Calculator

Topic List	Hegarty Maths Clip Numbers		
Basic Skills			
Negative Numbers: Four Operations	<u>41,42,43,44</u>		
Add and Subtract Fractions and Mixed Numbers	<u>63,64,66</u>		
Multiplication and Division of Fractions	<u>67, 68, 69, 70, 71, 72</u>		
Multiplication and Division of Decimal Numbers	<u>48</u> , <u>49</u> , <u>50</u>		
Basic Percentages: Non-Calculator and Calculator	<u>84</u> , <u>85</u> , <u>86</u> , <u>87</u>		
Fraction, Decimal and Percentage Conversions	<u>52, 55, 74, 76, 82, 83, 149</u>		
Number			
Estimation and Significant Figures	<u>130</u> , <u>131</u>		
Basic Index Laws	<u>103</u> , <u>105</u> , <u>106</u> , <u>107</u>		
Fractional and Negative Index Laws	<u>104</u> , <u>108</u> , <u>109</u> , <u>110</u>		
Standard Form Calculations	<u>124, 125, 126, 127</u>		
Surds: The Basics - Simplifying, Multiplying, Dividing	<u>112, 113, 114, 115</u>		
Surds: Expanding Brackets	<u>116</u> , <u>117</u>		
Surds: Rationalising the Denominator	<u>118, 119</u>		
Algebra			
Forming Algebraic Expressions and Formulae	<u>150, 151, 153, 155</u>		
Equations, Expressions, Identities and Formulae	<u>154</u>		
Simplifying Algebraic Expressions, including Brackets	<u>157, 158, 159, 160, 161</u>		
Expanding Double Brackets	<u>162, 163, 164, 165</u>		
Expanding Triple Brackets	<u>166</u>		
Factorising Single Brackets	<u>167</u> , <u>168</u> , <u>169</u>		
Simplifying Expressions by Factorising	<u>170</u> , <u>171</u>		
Factorising Double Brackets: Quadratic Expressions	<u>223, 224, 225, 226, 227, 228</u>		
Simplifying Expressions using the Index Laws	<u>173</u> , <u>174</u> , <u>175</u>		
Linear Sequences: n th Term Rule	<u>196, 197, 198</u>		
Quadratic Sequences: n th Term Rule	<u>247, 248, 249, 250</u>		
Other Sequences: Fibonacci, Geometric, Recurrence	<u>261, 262, 263, 264</u>		
Solving Linear Equations	<u>179, 180, 181, 182, 183</u>		
Solving Linear Equations: Unknown on Both Sides	<u>184</u> , <u>185</u> , <u>186</u>		
Forming and Solving Linear Equations	<u>176</u> , <u>188</u>		
Solving Quadratic Equations by Factorisation	<u>230,231,232,233,234</u>		
Solving Quadratic Equations using the Formula	<u>241,242</u>		

Topic List	Hegarty Maths Clip Numbers		
Algebra (continued)			
Rearranging Formulae	<u>280, 281, 282, 283, 284</u>		
Substitution into Equations and Formulae	<u>189, 278, 279, 287</u>		
Linear Graphs: Drawing Straight Line Graphs	<u>205, 206</u>		
Linear Graphs: Equation of a Straight Line, y = mx + c	<u>207</u> , <u>208</u> , <u>209</u> , <u>210</u> , <u>211</u> , <u>212</u> , 213		
Midpoint and Gradient of a Line Segment	<u>200</u> , <u>201</u> , <u>202</u> , <u>203</u> , <u>204</u>		
Quadratic Graphs: Drawing Quadratic Graphs	<u>251</u>		
Quadratic Graphs: Properties of Quadratic Graphs	<u>252, 253, 254, 255, 256, 257</u>		
Solving Linear and Quadratic Equations using Graphs	<u>217</u> , <u>260</u>		
Algebraic Proof	<u>325</u> , <u>326</u>		
Geometry and Measures			
Angles on Parallel Lines	<u>481</u> , <u>482</u> , <u>483</u>		
Solving Multi-Step Angle Problems	<u>488, 489, 490, 491</u>		
Angles in Polygons (Interior and Exterior Angles)	<u>561, 562, 563, 564</u>		
Forming and Solving Equations with Angles	<u>487, 565</u>		
Compound and Algebraic Perimeter	<u>551</u> , <u>552</u>		
Area of Rectangles, Triangles, Trapezia, Parallelograms	<u>555, 556, 558, 559</u>		
Circumference and Area of a Circle: The Basics	<u>534, 535, 539, 540</u>		
Perimeter and Area of Semi-Circles and Quarter-Circles	<u>536</u> , <u>541</u>		
Circumference and Area of a Circle: Problem Solving	<u>537, 538, 542, 543</u>		
Arc Length and Area of Circle Sectors	<u>544, 545, 546, 547</u>		
Pythagoras' Theorem: The Basics (including with Surds)	<u>498, 499, 500</u>		
Pythagoras' Theorem: Problem Solving	<u>501, 502, 503, 504</u>		
Trigonometry in Right-Angled Triangles: The Basics	<u>508, 509, 510, 511, 512</u>		
Trigonometry in Right-Angled Triangles: Problem Solving	<u>513, 514, 515</u>		
3D Pythagoras' Theorem and Trigonometry	<u>505, 506, 507</u>		
Volume of Prisms and Cylinders: The Basics	<u>569</u> , <u>571</u> , <u>572</u>		
Volume of Prisms and Cylinders: Problem Solving	<u>573, 574, 575</u>		
Similar Shapes: Lengths - The Basics	<u>609, 610, 611, 612, 613</u>		
Similar Shapes: Areas and Volumes - The Basics	<u>615, 616, 618, 619, 620</u>		
Similar Shapes: Problem Solving	<u>614, 617, 621</u>		
Vectors (an introduction)	622, 623, 624, 625, 626, 627		
Vectors (simple geometry problems)	628, 629		
Vectors (advanced exam style)	630, 631, 632, 633, 634, 635, 636		
Probability		<u>.</u>	
Single Event Probability	<u>350, 351, 352, 353</u>		
Experimental Probability (Relative Frequency)	<u>355, 356, 357</u>		
Combined Event Probability (Sample Space Diagrams)	<u>358</u> , <u>359</u>		

Mutually Exclusive and Independent Events	<u>354</u> , <u>360</u>			
Probability Tree Diagrams	<u>355</u> , <u>356</u> , <u>357</u>			
Probability Tree Diagrams: Conditional Probability	<u>358</u> , <u>359</u> , <u>360</u>			
Topic List	Hegarty Maths Clip Numbers			6
Probability (continued)				
Frequency Tree Diagrams	<u>368</u> , <u>369</u>			
Introduction to Set Theory: Set Notation	<u>370</u> , <u>371</u>			
Sets and Venn Diagrams	<u>372, 373, 374, 375, 376</u>			
Probability from Venn Diagrams	<u>383</u> , <u>384</u>			
Extension Section	Hegarty Maths Clip Numbers			
Algebra: Extension Topics	1		1	
Algebraic Fractions (including Solving Equations)	<u>172, 187, 229, 244</u>			
Simultaneous Linear Equations	<u>190, 191, 192, 193, 194</u>			
Forming and Solving Simultaneous Linear Equations	<u>195</u>			
Solving Simultaneous Linear Equations using Graphs	<u>218</u> , <u>219</u>			
Linear Graphs: Parallel and Perpendicular Lines	<u>214</u> , <u>215</u> , <u>216</u>			
Linear Graphs: Using the form $ax + by + c = 0$	<u>220</u>			
Quadratic Equations: Completing the Square	<u>235, 236, 237, 238, 239, 256</u>			
Quadratic Equations and Graphs: Using the Discriminant	<u>243</u> , <u>258</u>			
Forming and Solving Quadratic Equations	<u>244</u>			
Simultaneous Equations involving a Quadratic Equation	<u>245</u> , <u>259</u>			
Linear Inequalities: Representing on a Number Line	<u>265, 266, 267, 268</u>			
Solving Linear Inequalities	<u>269, 270, 271, 272</u>			
Linear Inequalities: Regions on a Graph	<u>273, 274, 275, 276</u>			
Quadratic Inequalities	<u>277</u>			
Rearranging Formulae: Advanced	<u>285</u> , <u>286</u>			
Functions: Basic Notation, Domain and Range	<u>288, 289, 290, 291, 292</u>			
Functions: Inverse and Composite Functions	<u>293, 294, 295, 296, 297</u>			
Geometry and Measures: Extension Topic	CS			
Trigonometry in Non-Right Angled Triangles: ½abSinC	<u>517</u> , <u>518</u> , <u>519</u>			
Sine Rule: The Basics	<u>521, 522, 523, 524, 525</u>			
Cosine Rule: The Basics	<u>527, 528, 529, 530</u>			
Sine and Cosine Rules: Problem Solving	<u>532</u> , <u>533</u>			
Volume of Cones, Spheres and Pyramids: The Basics	<u>576, 577, 578, 579, 580, 581</u>			
Advanced Volume: Problem Solving	<u>582</u> , <u>583</u>			
Circle Theorems: Angles inside a Circle	<u>593, 594, 595, 596, 597</u>			
Circle Theorems: Tangents and Chords	<u>598</u> , <u>599</u> , <u>600</u> , <u>601</u> , <u>602</u>			
Circle Theorems: Problem Solving	<u>603, 604, 605, 606</u>			