

Year 11 Higher Scheme of learning 2021-2022 - Term 1

Stretch key learning in italics

| Topic | Key learning | Hegarty Clip No | ☹ | ☺ | 😊 |
|-----------------------------------|--|-------------------------------|---|---|---|
| Similarity & Congruency | Understand and use SSS, SAS, ASA and RHS to prove congruency | 682 | | | |
| | Prove that 2 shapes are similar | 608,609,610,611, 612,613, 614 | | | |
| | Understand the effect of enlargement on angles, perimeter, area and volume | 616, 617,618, 619,620, 621 | | | |
| | Know the relationships between enlargement- area and volume | | | | |
| | <i>Solve problems involving frustrums of cones using similar triangles</i> | | | | |
| Circle Theorems | Prove and use angle in a semi circle is a right angle & opposite angles in a cyclic quadrilateral sum to 180° | 595 / 597 | | | |
| | Prove and use all circle theorems | 816-820 / 594-606 | | | |
| | Find and give reasons for missing angles on diagrams | 603-606 | | | |
| | <i>Solve problems that involve reasoning and provide counter arguments</i> | 603-606 | | | |
| Quadratics & Circles | Expand the product of more than two linear expressions | 166 | | | |
| | Identify intersection points of a quadratic and linear graph | 259 | | | |
| | Solve quadratic inequalities in one variable by factorising | 277 | | | |
| | Use iteration with simple converging sequences | 322 | | | |
| October half term | | | | | |
| Transformations | Enlarge a shape by a given scale factor and centre | 642-647 | | | |
| | Describe and transform 2d shapes using combined transformations | 656-657 | | | |
| | Recognise and describe reflections on a coordinate grid | 652 | | | |
| | Find the centre of a rotation by trial and error | 654 | | | |
| | <i>Describe fully a single transformation with all relevant information</i> | 650-654 | | | |
| Vectors & Geometry proof | Understand and use vector notation | 622-624 | | | |
| | Calculate the sum, difference and scalar multiple of a vector | 625-626 | | | |
| | Find the length of vector using Pythagoras' Theorem | 627 | | | |
| | Solve geometric problems in 2D where vectors are divided in a given ratio | 628-631 /635-636 | | | |
| | Produce geometric proofs to prove points are collinear and vectors/ lines are parallel | 632-634 | | | |
| Graphs of Trigonometric functions | Recognise, sketch and interpret graphs of the trigonometric functions | 303-305 | | | |
| | Know exact values of $\sin \theta$ and $\cos \theta$ for $\theta = 0^\circ, 30^\circ, 45^\circ, 60^\circ$ and 90° and exact value of $\tan \theta$ for $\theta = 0^\circ, 30^\circ, 45^\circ$ and 60° and find them from graphs. | 845 / 303-6 | | | |
| | Apply to the graph of $y = f(x)$ the transformations $y = -f(x)$, $y = f(-x)$ for sine, cosine and tan functions $f(x)$. | 311-312 | | | |
| | <i>Apply to the graph of $y = f(x)$ the transformations $y = f(x) + a$, $y = f(x + a)$ for sine, cosine and tan functions $f(x)$.</i> | 307-308 | | | |

Year 11 Higher Scheme of learning 2021-2022 - Term 2

Stretch key learning in italics

| Topic | Key learning | Hegarty Clip No | ☹ | ☺ | 😊 |
|---------------------------------|--|--------------------------|---|---|---|
| Reciprocal & Exponential graphs | Recognise, sketch and interpret graphs of reciprocals | 300-301 | | | |
| | Recognise, sketch and interpret graphs of exponential functions | 302/800-803 | | | |
| | Set up, solve and interpret the answers in growth and decay problems | 804-811 | | | |
| | <i>Interpret and analyse transformation of graphs of functions and write functions algebraically</i> | 311-312 / 307/308 | | | |
| Gradient & Area under a curve | Estimate the area under a quadratic or other graph by dividing it into trapezia | 891-893 | | | |
| | Estimate the gradient of a quadratic or non linear graph at a given point by sketching the tangent | 889 | | | |
| | Interpret the area under a linear or non linear graph in real-life context | 891-893 | | | |
| | <i>Interpret the rate of change of graphs of containers</i> | 890 | | | |
| Circle Geometry | Select and apply construction techniques | 659-669 | | | |
| | Find the equation of a tangent to a circle at a given point | 320 | | | |
| | Recognise and construct the graph a circle (r centred at the origin) | 778-779 | | | |
| | Justify if a straight line graph would pass through a circle | 318-319 | | | |
| | Calculate the sum, difference and scalar multiple of a vector | 625-626 | | | |
| | Find the length of vector using Pythagoras' Theorem | 627 | | | |
| | Solve geometric problems in 2D where vectors are divided in a given ratio | 628-631 / 635-636 | | | |
| | Produce geometric proofs to prove points are collinear and vectors/ lines are parallel | 632-634 | | | |
| Gap filing | | | | | |
| February half term | | | | | |

