

Year 9 Higher Scheme of learning 2021-2022 - Term 1

Stretch key learning in italics

Topic	Key learning	Hegarty Clip No	⊗	😊	☺
Calculations & Rounding	Round to the nearest integer and given number of DP and SIG FIG	56			
	Round numbers to 1 significant figure	130			
	Estimate answers to 1 and 2 step calculations	131			
	<i>Find error bounds for number rounded to different degrees of accuracy</i>	137, 138			
Indices, roots & reciprocals	Find the value of calculations using indices including positive, negative and fractional	103, 104, 108, 109			
	Apply index laws to simplify and calculate the value of numerical expressions	105, 106, 107, 110			
	<i>Use an extended range of calculator functions</i>				
	Use calculators for all calculations: positive and negative numbers, brackets, powers and roots, four operations	129			
Factors, multiples & primes	Write a number using prime factor decomposition and index notation	29, 30			
	Find common factors and multiples of 2 numbers	31, 34			
	Find the HCF and LCM of two numbers using Venn Diagrams	32, 35			
	<i>Problem solving using HCF and LCM</i>				
Standard form & Surds	Apply the four operations to Standard Form	125, 126, 127			
	Understand surd notation	111			
	Simplify surd expressions using square numbers	113, 114, 115, 116, 117			
	<i>Use and interpret a calculator display for standard form</i>	128			
October half term					
Algebra (Basics)	Expand a double bracket	162, 163, 164			
	Factorise quadratic expressions of the form $ax^2 + bx + c$;	223, 225, 226, 227, 228			
	Factorise quadratic expressions using the difference of two squares	224			
	<i>Evaluate statements and justify which answer is correct</i>				
Equations & Changing the Subject	Solve linear equations in one unknown with fractional coefficients	178, 179, 180, 181, 182, 183, 184, 185, 186			
	Form equations involving more complex shapes and solve these equations	176			
	Change the subject of a simple formula i.e. linear one or 2 step	280, 281, 282, 283			
	Change the subject of a formula including cases where the subject appears on both sides or contains a power	284, 285, 286			
	<i>Change the subject of a formulae for circles, spheres, cones and kinematics</i>				
Sequences & Progressions	Distinguish between arithmetic and geometric sequences	264, 919, 920			

	Generate a quadratic sequence, when given the nth term	247, 248, 249, 250			
	Continue a geometric progression including negative, fraction or decimal term	264			
	<i>Evaluate statements about whether or not specific numbers are in a sequence</i>				
Averages & Range	Design, use and interpret two way tables	422, 423, 424			
	Construct and interpret a stem and leaf diagram	430, 431, 432, 433			
	Construct and interpret grouped frequency tables	402, 403, 414, 415, 416, 417, 418			
	<i>Given the MMMR find the original numbers</i>	419, 420			
Christmas holidays					

Year 9 Higher Scheme of learning 2021-2022 - Term 2

Stretch key learning in italics

Topic	Key learning	Hegarty Clip No	☹	😊	☺
Representing Data	Produce and interpret Pie Charts	427, 428, 429			
	Produce and interpret histograms with equal class intervals				
	Construct and interpret time series graphs, commenting on trends	450, 452			
	<i>Critically evaluate a misleading graph</i>				
Scatter Graphs	Identify outliers and ignore them	452			
	Construct a scatter, comment on the type and strength of correlation	452			
	Use a line of best fit to predict values of a variable	453			
	<i>Use a line of best fit make predicts; interpolate and extrapolate apparent trends</i>				
Fractions	Apply the four operations to fractions including mixed numbers	65, 66, 67, 68, 69, 70			
	Convert a fraction into a recurring decimal				
	Convert a recurring decimal into a fraction	53, 54			
	<i>Find the reciprocal of an integer, decimal and fraction</i>	71			
February half term					
Percentages	Work out a percentage increase and decrease	88, 97			
	Find a percentage of a quantity using a multiplier	89			
	Describe percentage increase/ decrease with fractions				
	<i>Find the original amount (reverse) using calculator and non calc methods</i>	96			
Ratio & Proportion	Use a ratio to compare a scale model to a real- life object	864, 865, 868, 867, 868			
	Identify direct proportion from a table of values by comparing ratio values				

	Scale up recipes	739, 740, 741, 742			
	Convert between currencies	707, 708			
	<i>Problem solving using ratio, fractions and percentages.</i>	335			
Polygons, angles and parallel lines	Use the angle sums of irregular polygons				
	Use interior and exterior facts.	560, 561, 562, 563, 564			
	Identify alternate, corresponding and co-interior angles	481, 482, 483			
	<i>Solve problems involving multi-step "angle chasing" style questions</i>	488, 489, 490, 491			
Easter holidays					

Year 9 Higher Scheme of learning 2021-2022 - Term 3

Stretch key learning in italics

Topic	Key learning	Hegarty Clip No	☹	☺	😊
Pythagoras & Trigonometry	Calculate a missing side in a right angled triangle using Pythagoras	498, 499			
	Give an answer to the use of Pythaoras' Theorem using surd form	500			
	Use trigonometric ratios to solve 2D problems	508, 509, 510, 511, 512			
	<i>Know the exact values of $\sin \vartheta$ and $\cos \vartheta$ for $\vartheta = 0^\circ, 30^\circ, 45^\circ, 60^\circ$ and 90°; know the exact value of $\tan \vartheta$ for $\vartheta = 0^\circ, 30^\circ, 45^\circ$ and 60°.</i>	845			
Graphs- Linear & Real life	Construct a distance-time graph and velocity- time graph	874, 875, 876			
	Find the coordinates of the midpoint of a line segment using coordinates	200			
	Find the equation of a line through two given points	213			
	<i>Use and interpret coordinates in 3D</i>				
May half term					
Quadratic & Cube Graphs	Recognise a linear, quadratic, cubic, reciprocal and circle graph from its shape				
	Generate points and plot graphs for quadratic functions	251			
	Construct cubic graphs	298			
	<i>Draw circles, centre the origin, equation $x^2 + y^2 = r^2$</i>	314			
Loci & Constructions	Construct and interpret plans and elevations	837, 838, 839, 840, 841, 842, 843			
	Calculate and solve bearings problems	492, 493, 494, 495, 496			
	Use the standard ruler and compass for basic constructions	660, 661, 662, 663, 674, 675, 676, 677, 678, 683			
	<i>Find and describe regions satisfying a combination of loci</i>	679			
	Understand and use SSS, SAS, ASA and RHS to prove congruency	682			

Similarity & Congruency	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>				
Compound Measures	Convert between metric speed measures, density and pressure	716, 717, 725, 726, 727, 737			
	Use kinematics formulae				
	Use formulae for DST, MDV & FPA	718, 719, 720, 721, 722, 723, 724, 728, 729, 730, 731, 734, 735, 736			
	<i>Speed/ Distance type problems that involve students justifying their reasons</i>	732, 733			
Summer holidays					