Year 10 Autumn

1 and 2	CR1: Representation	CR2: Pytha/Trigonometry and bearings	CR3: Fractions Ratio and proportion	CR4 equations/formulae/ compound measures
	• Construct and interpret two way tables • Construct and interpret Frequency trees • Construct and Interpret Venn diagrams • Find probabilities from Two way tables, frequency trees and Venn diagrams • Express a number as a product of prime factors • Find the HCF and LCM of any two numbers, via prime factors • Finding probabilities using tree diagrams • Using relative frequency to estimate probability • Understand and use the product rule for counting: video, worksheets and solutions	• Trigonometry (re-)introduction: video; worksheet & solutions • Trigonometry: missing sides video – worksheet- solutions • Trigonometry:missing angles video – worksheet - solutions • Know and use Pythagoras' Theorem • Know the exact values of sinθ, cosθ for θ=0,30,45,60 and 90° • Solve multistep problems that use both trigonometry and Pythagoras • Review bearings • Construct triangles • Construct Angle bisector • Construct perpendicular bisector • Use constructions to solve loci problems	• Compare the size of fractions (4 separate videos/lessons) • Find a fraction of an amount • Add and subtract fractions (including mixed numbers) • Multiply and Divide fractions (including mixed numbers) Four operations with fractions and fractional change (12 videos/lessons) • Solve best buy problems via the unitary method • Simplify ratios • Share an amount in a given ratio Find a part given a part Find the total or difference, given a part • Express a ratio as a fraction • Proportion problems • Solve problems with direct proportion • Solve problems with inverse proportion	• Expand single and multiple single brackets • Expand double brackets • Expand double brackets and simplify (part 2) • Factorise (single brackets) (Part 1, Part 2, Part 3) • Factorise (double brackets where a = 1) • Solve linear equations (2 steps – review) • Solve linear equations (x on both sides) • Solve linear Simultaneous equations algebraically (4 videos/lessons) • Solve quadratic equations by factorising (Lesson 2, 3 & 4) • Work with Compound measures e.g speed, pressure (4 videos/lessons) • Change the subject of the formula one and two step • Draw and interpret straight line graphs for real life situations

Set 3	CR1 Representation	CR2 Pythagoras and Trigonometry	CR3: Fractions Ratio and proportion

Year 10 Spring

1 and 2	CR5: Inequalities and averages	CR6: Linear and Quadratic graphs	CR7: Angles	CR8: Percentages
	• Calculate averages (from a list – this is a review) • Find the mean average from a frequency table • Representing inequalities on a number line • Inequalities and substitution • Solve an inequality, first steps, with the unknown on both sides • Round answers to decimal places, significant figures • Working with limits of accuracy due to rounding • Estimate answers to calculations by rounding numbers to 1 significant figure or an appropriate level of rounding • Convert large and small numbers into standard form; and vice versa • Calculate with standard form; 4 lessons	• Working with straight line graphs in the form y = mx + c 4 lessons • Straight line graphs and parallel lines (4 lessons) • Straight line graphs and perpendicular lines (4 lessons – Higher) • Working with linear sequences (4 lessons) • Simultaneous equations (4 lessons) • Plotting and working graphs of quadratic functions (4 lessons)	• Basic angle facts (Review) • Angles on parallel lines • Exterior angles of a polygon and problem solving • Sum of the interior angles of a polygon • Problem solving with exterior and interior angles • Further problems with angles on parallel lines	• Find the percentage of an amount and basic percentage review • Increase and decrease by a given percentage (including simple interest) • Repeated percentage change • Proportion problems (links to CR3 Fractions, Ratio and Proportion)

Set 3	CR3: Fract/Ratio/prop	CR4 equations/formulae/ compound measures	CR5: Inequalities and averages	CR6: Lin. and Quad. graphs

Year 10 Summer

1 and 2	CR9 Area inc circles arcs and sectors	CR10 b volume	CR11 congruence similarity transformations	CR12: Real life graphs
	• Review of area and perimeter of basic shapes (lessons 1 & 2) and then on to compound shapes (lessons 3 & 4) • Find the surface area of a triangular prism • Surface area of a cylinder • Find the surface area of a Pyramid (includes volume off next topic) • Calculate arc lengths, angles and areas of sectors of circles (4 lessons) • Use the formula to find surface area of a sphere, cone or frustum • Find the surface of compound solids constructed from cubes, cuboids, cones, pyramids, spheres, hemispheres, cylinders (includes volumes off next topic)	• Volume of a prism including Cylinder • Form and solve equations in context of Volume • Find the volume of compound solids constructed from cuboids • Recall and use the formula for volume of a Pyramid • Find the volumes of compound solids constructed from cones, pyramids, spheres, hemispheres, cylinders;	• Transformations: reflections, rotations • Identify and solve problems with congruent shapes (Please use video and worksheet number 66) • Describe and transform 2D shapes using combined transformations • Describe the changes and invariance achieved by combinations of transformations (see link above) • Transformations: Enlargements • Identify and solve problems with shapes which are similar • Describe and transform 2D shapes using enlargements by negative/ fractional scale factor (H) • Understand and use column notation in relation to vectors • Calculate using column vectors, represent graphically • Identify two column vectors which are parallel (multiply a vector by a scalar)	• Frequency Polygons (Video and worksheet 155 and 156) and time series graphs • Identify and interpret gradients and intercepts of linear functions graphically • Distance time graphs (Video and worksheet 171) • Change freely between related standard units and compound units e.g. speed including algebraic • Compare distributions • Draw scatter graphs; Identify outliers • State the relationship and correlation between two variables (Video and worksheet 168); • Use the line of best fit make predictions; interpolate and extrapolate (Video and worksheet 167) • State how reliable their predictions are, i.e. not reliable if extrapolated • Construct and interpret pie charts • Form and solve equations with pie charts (Video and worksheet 164)