Stage 9

Unit 1 – Repeated Percentage Change

Lesson 1 – Understanding and calculating with compound interest

Lesson 2 – Depreciation and repeated decrease problems

Lesson 3 – Repeated percentage change (growth and decay) questions

Unit 2 – Trigonometry

Lesson 1 – Finding Hypotenuse using Pythagoras

Lesson 2 – Finding any sides

Lesson 3 – Labelling sides given an angle, choosing ratios

Lesson 4 – Using ratios to find missing sides

Lesson 5 – Using ratios to find angles

Lesson 6 – Problems involving Trig and Pythagoras

Lesson 7 – Problem solving finding angles including bearings and angles or elevation/depression

Lesson 8 – Problem Solving and Extension Activities

Unit 3 – Quadratics

Lesson 1 – Expand the product of two linear expressions (expressions/equations/identities starter)

Lesson 2 – Factorising double bracket quadratic expressions

Lesson 3 – Solving quadratics by factorising

Lesson 4 – Problem solving involving quadratic equations

Lesson 5 – Problem Solving and Extension Activities

Unit 4 – Probability

Lesson 1 – Theoretical probability recap and drawing tree diagrams

Lesson 2 – Drawing tree diagrams for independent events

Lesson 3 – Using tree diagrams to find probability of multiple events

Unit 5 – Equation of a Line and Further Graphs

Lesson 1 – Plotting straight line recap and identifying gradient and y-intercept from the graph

Lesson 2 – Rearranging equations to find m and c

Lesson 3 – Finding equation of a line given gradient and point

Lesson 4 – Finding equation or a line given 2 points

Unit 6 – Simultaneous Equations

Lesson 1 – Find solutions to simultaneous equations graphically

Lesson 2 – Find solutions to simultaneous equations algebraically (start with multiplying both equations)

Lesson 3 – Further solving linear simultaneous equations (practice)

Lesson 4 – Worded simultaneous equations problems

Unit 7 – Charts and Scatter Graphs

Lesson 1 – Plotting Scatter Graphs and identifying correlation

Lesson 2 – Using Scatter Graphs to estimate

Lesson 3 – Problem Solving and Extension Activities

AP1

Unit 8 – Circles, Sectors and Pythagoras

Lesson 1 – Recap on circle definitions, area and circumference

Lesson 2 – Problem solving recap on area and circumference (concentrate on semicircles, quarter circles)

Lesson 3 – Area and arc length of a sector

Lesson 4 – Problem solving circles and sectors

Lesson 5 – Surface area of Prisms

Lesson 6 – Surface area of Cylinders

Unit 9 – Quadratic and Further Graphs

Lesson 1 – Plotting quadratic graphs and using to solve equations f(x)=a

Lesson 2 – Plotting cubic and further graphs

Lesson 3 – Sketch and recognise quadratic, cubic and reciprocal graphs

Lesson 4 – Kinematic graphs problem solving

Unit 10 – Inequalities

Lesson 1 – Inequalities on number lines

Lesson 2 – Solving inequalities (1 and 2 step)

Lesson 3 – Solving inequalities (unknown on both sides and brackets)

Unit 11 – Proportion and Similarity

Lessons 1 – Direct Proportion

Lesson 2 – Inverse Proportion

Lesson 3 – Work Done Problems

Lesson 4 – Finding Sides on Similar Shapes

Unit 12 – Surface Area and Volume

Lesson 1 – Calculating SA and volume of a sphere

Lesson 2 – Calculating Volume of a cone and pyramid

Lesson 3 – Using Pythagoras to find Volume of Cone and Pyramid

Lesson 4 – Calculating SA of a cone and pyramid

Lesson 5 – Using Pythagoras to find SA of cones and Pyramids

Lesson 6 – Problem solving using volume of cones, pyramids and cones

Lesson 7 – Volume of a Frustum

Unit 13 – Non Linear Sequences

Lesson 1 –Fibonacci sequences

Lesson 2 –Generating quadratic sequences

Lesson 3 – Geometric sequences

AP2

Unit 14 – Congruence and Proof

Lesson 1 – know and use congruence criteria

Lesson 2 – Use geometric facts to prove congruence

Lesson 3 – Problem Solving and Extension Activities

Unit 15 – Vectors

Lesson 1 – Recap translations and introduction to identifying and understanding vectors

Lesson 2 – Read and write vectors including on square grids

Lesson 3 – Add and Subtract vectors

Lesson 4 – Multiply vectors by integer and fractional scalars

Lesson 5 – Problem solving with vectors

Unit 5 – Constructions and Loci

Lesson 1 – Constructing angle and line bisectors and perpendicular lines from a point

Lesson 2 – Constructing single Loci: around points and lines, closer to AB than BC etc

Lesson 3 – Solving Loci problems involving numerous Loci and constructions

Lesson 4 – Constructing 2D shapes and Problem Solving

Lesson 5 – Plans and elevations