Y9 Strand	PLC
Straight line graphs	1. Lines parallel to the axes, y=x and y=-x
	2. Using tables of values
	3. Compare gradients
	4. Compare gradients
	5. Compare intercepts
	6. Understand and use y=mx+c
	7. (H) Write an equation in the form y=mx+c
	8. Find the equation of a line from a graph
	9. Interpret gradient and intercepts of real-life graphs
	10. (H) Model real-life graphs involving direct proportion
	11. (H) Explore perpendicular lines
Forming and solving equations	1. Solve one and two step equation and inequalities
	2. Solve one and two step equations and inequalities ith brackets
	3. Inequalities with negative numbers
	4. Solve equations with unknown on both sides
	5. Solve inequalities with unknown on both sides
	6. Solving equations and inequalities in context
	7. Substituting into formulae and equations
	8. Rearranging formulae (one step)
	9. Rearranging formulae (2 step)
	10. (H) Rearrange complex formulae including brackets and squares
	1. Factors, multiples and primes
	2. True or false
	3. Always sometimes never true

Testing conjecture	4. Show that
	5. Conjectures about number
	6. Expand a pair of binomials
	7. Conjectures with algebra
	8. Explore the 100 grid
Three dimensional shapes	1. Know names of 2D and 3D shapes
	2. Recognise prisms (including language of edges/vertices)
	3. Accurate nets of cuboids and other 3D shapes
	4. Sketch and recognise nets of cuboids and other 3D shapes
	5. Plans and elevations
	6. Find area of 2D shapes
	7. Surface area of cubes and cuboids
	8. Surface area of triangular prisms
	9. Surface area of a cylinder
	10. Volume of cubes and cuboids
	11. Volume of other 3D shapes - prisms and cylinders
	12. Explore volumes of cones, pyramids and spheres
Construction and	1. Draw and measure angles.
	2. Construct and interpret scale drawings
	3. Locus of distance from a point
	4. Locus of distance from a straight line/shape
	5. Locus equidistant from two points
	6. Construct perpendicular bisector
	7. Construct a perpendicular from a point

congruency	8. Construct perpendicular to a point
	9. Locus of distnace from two lines
	10. Construct an angle bisector
	11. Construct triangles from given information
	12. Identify congruent figures
	13. Explore congruent triangles
	14. Identify congruent triangles
Numbers	1. Integers, real and irrational numbers
	2. (H) Understand and use surds
	3. Work with directed numbers
	4. Solve problems with integers
	5. Solve problems with decimals
	6. HCF and LCM
	7. adding and subtracting fractions
	8. Multiplying and dividing fractions
	9. Solve problems with fractions
	10. Numbers in standard form
Using percentages	1. Use and equivalence of fractions, decimals and percentages
	2. Calculate percentage increase and decrease
	3. Express a change as a percentage
	4. Solve 'reverse' percentage problems
	5. Recognise and solve percentage problems (non calc)
	6. Recognise and solve percentage problems (calc)
	7. (H) Solve problems with repeated percentage change

Maths and money	1. Solve problems with bills and bank statements
	2. Calculate simple interest
	3. Calculate compound interest
	4. Solve problems with VAT
	5. Calculate wages and taxes
	6. Solve problems with exchange rates
	7. Solve unit pricing problems
Angles and deduction	1. Angles in parallel lines
	2. Solve angle problems (use chain of reasoning)
	3. Angle problems with algebra
	4. Conjectures with angles
	5. Conjectures with shapes
	6. (H) Link constructions and geometrical reasoning.
Rotation and translation	1. Identify the order of rotational symmetry of a shape
	2. Compare and contrast rotational symmetry with lines of symmetry
	3. Rotate a shape about a point on a shape
	4. Rotate a shape about a point not on a shape
	5. Translate points and shapes by a given vector
	6. Compare rotation and reflection of shapes
	7. (H) Find the result of a series of transformations
Pythagoras'	1. Squares and square roots
	2. Identify the hypotenuse of a right angles triangle
	3. Determine whether a triangle is a right-angled
	4. Calculate the hypotenuse of a right-angled triangle

theorem	5. Calculate the missing sides in right-angled triangled
	6. Use Pythagoras' theorem in coordinate axis
	7. Explore proofs of pythagoras' theorem
	8. Use Pythagoras' theorem in 3D shapes
Enlargement and similarity	1. Recognise enlargement and similarity
	2. Enlarge a shape by a positive integer scale factor
	3. Enlarge a shape by a positive integer scale factor from a point
	4. Enlarge a shape by a positive fractional scale factor
	5. (H) Enlarge a shape by a negative scale factor
	6. Work out missing sides and angles in a pair of given similar shapes
	7. (H) Solve problems with similar triangles
	8. (H) Explore ratios in right-angled triangles
Ratio and proportion problems	1. Solve problems with direct proportion
	2. Direct proportion and conversion graphs
	3. Solve problems with inverse proportion
	4. (H) Graphs of inverse relationships
	5. Solve ratio problems given the whole or a part
	6. Solve 'best buy' problems
	7. (H) Solve problems ratio and algebra
Rates	1. Solve S/D/T problems without a calc
	2. Solve S/D/T problems with a calc
	3. Use distance time graphs
	4. Solve problems with density, mass and volume
	5. Solve flow problems and their graphs

	6. Rates of change and their units
	7. (H) Convert compound units
Probability	1. Single event probability
	2. Relative frequency
	3. Expected outcomes
	4. Independent events
	5. (H) Use tree diagrams
	6. (H) Use tree diagrams to solve 'without replacement'
	7. Use diagrams to work out probabilities
Algebraic representation	1. Draw and interpret quadratic graphs
	2. Interpret graphs, including reciprocal and piece-wise
	3. (H) Investigate graphs of simultaneous equations
	4. Represent inequalities