

## Chapter 1: Algebraic Expressions: Chapter 1: Algebraic Expressions

P1 I can multiply and divide integer powers			
P2 I can expand a single term over brackets and collect like terms			
P3 I can expand the product of two or three expressions			
P4 I can factorise linear, Quadratic and simple cubic expressions			
P5 I know and can use the laws of indices			
P6 I can simplify and use the rules of surds			
P7 I can rationalise denominators			

## Chapter 2: Quadratics: Chapter 2: Quadratics

P8 I can solve quadratic equations using factorisation, the quadratic formula and completing the square			
P9 I can read and use $f(x)$ notation when working with functions			
P10 I can sketch the graph and find the turning point of a quadratic function			
P11 I can find and interpret the discriminant of a quadratic expression			
P12 I can use and apply models that involve quadratic functions			

## Chapter 3: Equations and Inequalities: Chapter 3: Equations and Inequalities

P13 I can solve linear simultaneous equations using elimination or substitution			
P14 I can solve simultaneous equations: one linear and one quadratic			
P15 I can interpret algebraic solutions of equations graphically			
P16 I can solve linear inequalities			
P17 I can solve quadratic inequalities			
P18 I can interpret inequalities graphically			
P19 I can represent linear and quadratic inequalities graphically			

## Chapter 4: Graphs and transformations: Chapter 4: Graphs and transformations

P20 I can sketch cubic graphs			
P21 I can sketch quartic graphs			
P22 I can sketch reciprocal graphs of the form			
P23 I can use intersection points of graphs to solve equations			
P24 I can translate graphs			
P25 I can sketch graphs			

P26 I can transform graphs of unfamiliar functions			
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## Chapter 5: Straight line graphs: Chapter 5: Straight line graphs

P27 I can calculate the gradient of a line joining a pair of points			
P28 I can understand the link between the equation of a line, and its gradient and intercept			
P29 I can find the equation of a line given (i) the gradient and one point on the line or (ii) two points on the line			
P30 I can find the point of intersection for a pair of straight lines			
P31 I know and use the rules for parallel and perpendicular gradients			
P32 I can solve length and area problems on coordinate grids			
P33 I can use straight line graphs to construct mathematical models			

## Chapter 6: Circles: Chapter 6: Circles

P34 I can find the mid point of a line segment			
P35 I can find the equation of the perpendicular bisector to a line segment			
P36 I know how to find the equation of a circle			
P37 I can solve geometric problems involving straight lines and circles			
P38 I can use circle properties to solve problems on coordinate grids			
P39 I can find the angle in a semicircle and solve other problems involving circles and triangles			

## Chapter 7: Algebraic methods: Chapter 7: Algebraic methods

P40 I can cancel factors in algebraic fractions			
P41 I can divide a polynomial by a linear expression			
P42 I can use the factor theorem to factorise a cubic expression			
P43 I can construct mathematical proofs using algebra			
P44 I can use proof by exhaustion and disproof by counter-example			

## Chapter 8: The binomial expansion: Chapter 8: The binomial expansion

P45 I can use Pascal's triangle to identify binomial coefficients and use them to expand simple binomial expressions			
P46 I can use combinations and factorial notation			
P47 I can use the binomial expansion to expand brackets			
P48 I can find individual coefficients in a binomial expansion			
P49 I can make approximations using the binomial expansion			

**Chapter 9: Trigonometric ratios: Chapter 9: Trigonometric ratios**

P50 I can use the cosine rule to find a missing side or angle			
P51 I can use the sine rule to find a missing side or angle			
P52 I can find the area of a triangle using an appropriate formula			
P53 I can solve problems involving triangles			
P54 I can sketch the graphs of the sine, cosine and tangent functions			
P55 I can sketch simple transformations of these graphs			

**Chapter 10: Trigonometric identities and equations: Chapter 10: Trigonometric identities and equations**

P56 I can calculate the sine, cosine and tangent of any angle			
P57 I know the exact trigonometric ratios for 30			
P58 I know and can use the trigonometric identities			
P59 I can solve simple trigonometric equations of the forms $\sin x = k$ , $\cos x = k$ and $\tan x = k$			
P60 I can solve more complicated trigonometric equations			
P61 I can solve trigonometric equations that produce quadratics			

**Chapter 11: Vectors: Chapter 11: Vectors**

P62 I can use vectors in two dimensions			
P63 I can use column vectors and carry out arithmetic operations on vectors			
P64 I can calculate the magnitude and direction of a vector			
P65 I can understand and use position vectors			
P66 I can use vectors to solve geometric problems			
P67 I can understand vector magnitude and use vectors in speed and distance calculations			
P68 I can use vectors to solve problems in context			

**Chapter 12: Differentiation: Chapter 12: Differentiation**

P69 I can find the derivative of a simple function			
P70 I can use the derivative to solve problems involving gradients, tangents and normals			
P71 I can identify increasing and decreasing functions			
P72 I can find the second order derivative of a simple function			
P73 I can find stationary points of functions and determine their nature			
P74 I can sketch the gradient function of a given function			
P75 I can model real-life situations with differentiation			

**Chapter 13: Integration: Chapter 13: Integration**

P76 I can find $y$ given $dy/dx$ for simple powers of $x$			
P77 I can integrate polynomials			
P78 I can find $f(x)$ given the derivative of $f(x)$ and a point on the curve			
P79 I can evaluate a definite integral			
P80 I can find the area bounded by a curve and the $x$ -axis			
P81 I can find areas bounded by curves and straight lines			

**Chapter 14: Exponentials and logarithms: Chapter 14: Exponentials and logarithms**

P82 I can sketch graphs of the form and transformations of these graphs			
P83 I can differentiate and understand why this result is important			
P84 I can use and interpret models that use exponential functions			
P85 I can recognize the relationship between exponents and logarithms			
P86 I can recall and apply the laws of logarithms			
P87 I can solve equations of the form			
P88 I can describe and use the natural logarithm function			
P89 I can use logarithms to estimate the values of constants in non-linear models			

Date:

Student Reflection:
Teacher Comment: