



Algebra 2

- Section 1 – Polynomial Operations
- Section 2 - Polynomial Factorization
- Section 3 - Polynomial Graphs
- Section 4 - Complex Numbers
- Section 5 - Rational Exponents and Radicals
- Section 6 – Logarithms
- Section 7 – Graph Transformations
- Section 8 – Equations
- Section 9 - The Binomial Expansion
- Section 10 – Trigonometry
- Section 11 – Series

Section 1 – Polynomial Operations

- Starting Polynomials
- Adding and Subtracting Polynomials
- Multiplying Polynomials by Scalars
- Multiplying a Monomial to a Polynomial
- Multiplying a Binomial to a Polynomial

Section 2 - Polynomial Factorization

- Factorising Polynomial Expressions
- Factorising Polynomial Expressions using a Common Factor
- Factorising Polynomial Expressions with a Given Factor
- Factorising Polynomial Expressions without a Given Factor
- Factorising Higher Order Polynomial Expressions by Grouping
- Factorising Higher Order Polynomial Expressions by Repeated Factorisation

Section 3 - Polynomial Graphs

- The Shape of Polynomial Function Graphs
- Polynomial Roots (Zero's)
- Repeated Roots



Section 4 - Complex Numbers

What are Imaginary Numbers?

The Complex Plane and Argand Diagrams

Adding and Subtracting Complex Numbers

Multiplying Complex Numbers

Complex Conjugates & Dividing Complex Numbers

Complex Solutions to Quadratic Equations

Section 5 - Rational Exponents and Radicals

Evaluating Rational Exponents of the Form $1/a$

Evaluating Rational Exponents of the Form a/b

Section 6 – Logarithms

Logarithmic Expressions

'e' and the Natural Logarithm

Graphs of Logarithmic Functions

Switching Between Exponential & Logarithmic Form

Rules of Logarithms

Solving Exponential Equations using Logarithms

Solving Exponential Equations using Rules of Logarithms

Section 7 – Graph Transformations

Moving Graphs Horizontally

Moving Graphs Vertically

Stretching / Compressing Graphs Horizontally

Stretching / Compressing Graphs Vertically

Inverting Graphs of Functions

Section 8 – Equations

Solving Equations with Fractions

Solving Equations Which Contain Square Roots

Solving Equations Which Contain Cube Roots

Solving Quadratic Systems of Equations

Section 9 - The Binomial Expansion

Starting the Binomial Expansion

Pascal's Triangle

Factorial Notation and Combinatorics



Binomial Expansion Using Factorial Notation

Binomial Expansion for $(1 + x)^n$

Binomial Expansion for $(a + bx)^n$

Section 10 – Trigonometry

Using Radians

Trigonometric Values for Common Angles

Trigonometric Values for Multiples of Common Angles

The Graph of the Sine Function

The Graph of the Cosine Function

The Graph of the Tangent Function

Section 11 – Series

Arithmetic Series

Geometric Series

Telescoping Series

Summation (Sigma) Notation