# underground mathematics

## Exploring the connections that underpin mathematics

Thinking about Numbers

Thinking about Geometry

Geometry of Equations

Quadratics

Thinking about Functions

Combining Functions

Polynomials & Rational Functions

Thinking about Algebra

Circles

Sequences

Exponentials & Logarithms

Introducing Calculus

Counting & Binomials

Vector Geometry

Divisibility & Induction

Complex Numbers in the Plane

Calculus of Powers

Trigonometry: Triangles to Functions

Calculus meets Functions

**Number**

**Geometry**

Combining Vectors

Trigonometry: Compound Angles

Calculus of Trigonometry & Logarithms

**Algebra**

**Functions**

**Calculus**

Matrices & Linear Transformations

Chain Rule & Integration by Substitution

Product Rule & Integration by Parts

Power Series

💡 Pervasive Ideas

Averages

Transforming

Constraints

The Many Faces of Complex Numbers

Hyperbolic Functions

Symmetry

Invariance

Limits

Differential Equations

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