

Roots of polynomials

Vectors; equations of planes; normal vectors to a plane; angles between planes

Matrices; determinant and invertibility

Proof by induction

Second order differential equations; substitution; solving non-homogeneous ODEs

Power series solutions of differential equations

Hyperbolic functions; integration (arc length)

Complex numbers; complex number loci, cartesian geometry

Integration (reduction formulae); further integration (area under the curve)

Recurrence relations; proof by induction

Complex numbers (roots of quadratic equations)