

GCSE recap

Index laws, surds, factorising, solving quadratics, completing the square, modelling with quadratics



Graphs & Transformations

Cubic graphs, quartic graphs, reciprocal graphs, points of intersection, translating graphs, stretching graphs, transforming functions



Circles

Midpoints and perpendicular bisectors, equation of a circle, intersections of straight lines and circles, use tangent and chord properties, circles and triangles



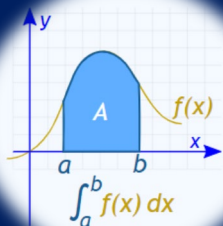
Radians & Trigonometry

Radians, degrees, trigonometric identities, trigonometric equations, modelling, geometrical problems



Exponentials & logarithms

Exponential functions, $y = e^x$, exponential modelling, logarithms, laws of logarithms, solving equations using logarithms, working with natural logarithms, logarithms and non-linear data.



$$ax^2 + bx + c = 0 \text{ but } a \neq 0$$

then
$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

- DISCRIMINANT**
- ⇒ $b^2 - 4ac > 0$ **two** real solutions
 - ⇒ $b^2 - 4ac = 0$ **one** real solutions
 - ⇒ $b^2 - 4ac < 0$ **zero** real solutions

Equations & inequalities

Linear simultaneous equations, quadratic simultaneous equations, simultaneous equations on graphs, linear inequalities, inequalities on graphs, regions



Straight line graphs

$y = mx + c$, equations of straight lines, parallel and perpendicular lines, length and area, modelling with straight lines.



Algebraic methods

Algebraic fractions, dividing polynomials, the factor theorem, mathematical proof, methods of proof



Differentiation & Integration

Parametric equations, Differentiating polynomial functions, differentiation techniques, modelling with differentiation, basic integration



Revision Exam Questions.

