

Do I know how to . . . ?

These are extras – you need to know all the foundation topics too!!

- Use fractional and negative indices
- Work with surds (irrational numbers)
- Use SOH CAH TOA
- Use the Sine and Cosine rules and the rule for area of a triangle
- Use all of the circle theorems – [check our revision sheet for these](#)
- Solve simultaneous equations
- Factorise quadratic equations (i.e. changing an equation like $2x^2 + 6x + 4$ into $(x + 2)(x + 2)$)
- Solve quadratic equations (e.g. $x^2 + 6x + 5 = 0$) by factorising
- Solve quadratic equations using the formula
- Use the “difference of 2 squares”, e.g. $x^2 - 9$
- Work out cumulative frequency, draw the graph and find the median and quartiles
- Read and draw a box plot
- Create histograms
- Create frequency polygons
- Understand stretches and shifts of graphs (this is when you have $f(x)$)
- Construct a bisector of an angle and a perpendicular bisector of a line using a pair of compasses
- Use a scale factor to find out the missing lengths on similar shapes
- Understand that, with similar shapes, you multiply by the scale factor twice when finding area and three times when finding volume
- Complete a probability tree
- Find the probability of events: know when to multiply the fractions and when to add them
- Change the subject of a formula
- Use standard form
- Use direct proportion and indirect proportion (using the α symbol)
- Understand and use vectors
- Find the equation of a perpendicular line
- Use compound interest
- Simplify algebraic fractions
- Write recurring decimals as fractions
- Use the equations for surface area and volume of spheres and cones
- Substitute values into an equation so you can draw the graph
- Use upper and lower bounds