

# Year 11 Higher - Mathematics

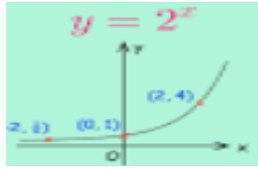
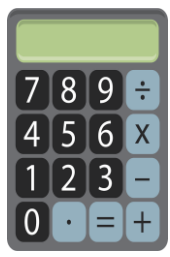
Links to careers/SMSC/Personal Development:

The National Career Service, Prospects, UCAS, STEM, MindTools provides a wealth of information on various careers, including job profiles, salary expectations, and required qualifications. These resources can help Year 11 math students explore potential career paths, develop essential life skills, and foster personal growth. Encourage them to actively engage with these resources to prepare for their future academic and professional journeys. UK Mathematics Trust (UKMT) offers mathematical competitions, challenges, and resources for students interested in advanced math. Maths watch, Maths genie have very good resources to access exam style questions and modelled student friendly solutions. These resources can help Year 11 math students explore potential career paths, develop essential life skills, and plan for their future academic and professional journeys. Encourage them to actively engage with these resources to make informed decisions about their futures.

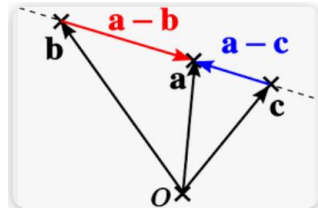
## LEARNING JOURNEY



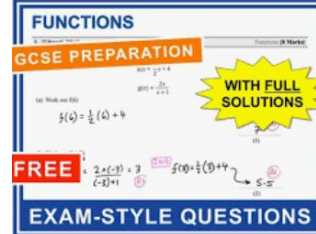
a) Career pathway- Sixth form, College and Apprenticeships, .....



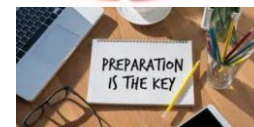
Reciprocal and exponential graphs



Vectors



Functions



Algebraic proofs

March Mocks

Algebraic fractions

Simplifying Algebraic Fractions

Simplify  $\frac{x^2 + 5x + 4}{x^2 + 8x + 16}$

$$= \frac{(x+1)(x+4)}{(x+4)(x+4)}$$

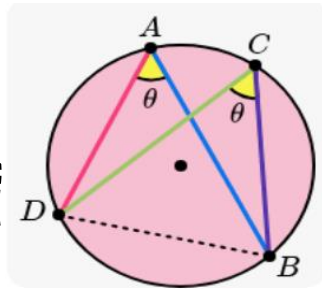
Equations with algebraic fractions

Rationalising surds

$$\frac{5}{1 + \sqrt{2}}$$

Changing the subject of complex formula

Circle geometry



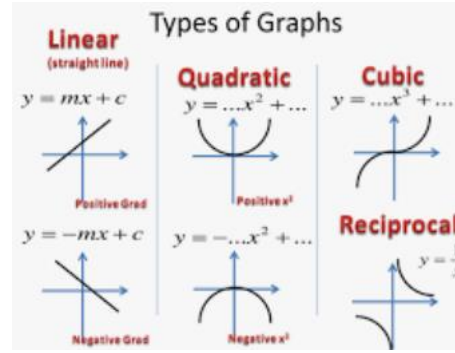
Circle theorems



Question level analysis

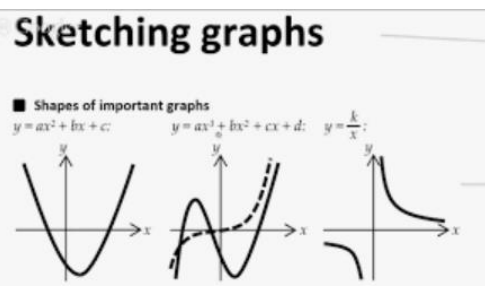
Nov Mocks

Practice exams style questions



graphs of circles, cubes and quadratic

sketching graphs



Quadratics, expanding more than 2 brackets

$$(x^2 + 3x + 2)(3x + 3)$$

$$= 3x^3 + 3x^2 + 9x^2 + 9x + 6x + 6$$

Home learning : Weekly on SPARX

## Year 11 learning summary: Rationale

In Year 11 we will explore the following:

Algebra Fundamentals- Geometry and Trigonometry, Statistics and Probability. Review and Preparation-Review all topics covered during the year. Practice with past exam papers and sample questions. Work on time management skills for exams. Use exam question analysis to inform planning strategically to tackle GCSE questions to make progress.

Receive feedback on progress and areas for improvement. Set goals for Year 12 mathematics and beyond. By following this Year 11 learning journey, students will have a comprehensive understanding of fundamental mathematical concepts, strong problem-solving skills, and the necessary preparation for Year 12 and beyond, whether they plan to continue studying mathematics at an advanced level or pursue other academic or career pathways. Sixth form, college or apprenticeship post 16

