



## Transition work to prepare for Mathematics A level

This transition work covers content from GCSE Maths that is used during the start of the A level course.

To help you build confidence for the start of the course, here are example questions from these topics. Answers are supplied so that you can check your understanding and identify any gaps where you might need support. This work is optional but at least reviewing / trafficking the topics will help you make a smooth start to the A level content.

These topics will feature in the first assessments of the A level course and support will be available in school in September to help you prepare for that if needed.

If you have any questions please contact [awearnden@tggsacademy.org](mailto:awearnden@tggsacademy.org)

## Transition Topic List:

1. Algebraic Manipulation (simplifying expressions including index laws, working with algebraic fractions, expanding brackets, factorising, rearranging formulae)
2. Surds and Indices: Negative indices, fractional indices, substitution, change of base, simplifying surds, adding and subtracting surds, multiplying surds including brackets, rationalising denominators)
3. Quadratic Equations (Solving quadratic equations, completing the square, discriminant, sketching quadratic graphs).

1. Algebraic Manipulation (simplifying expressions including index laws, working with algebraic fractions, expanding brackets, factorising, rearranging formulae).

Websites and videos if you need to revise these topics:

**Corbett Maths:** <https://corbettmaths.com/contents/>

Indices video 17,

Algebraic fractions videos 21-24,

Expanding brackets videos 14-15,

Factorising videos 117-120,

Rearranging formulae videos 7-8

**Maths genie:** <https://www.old.mathsgenie.co.uk/gcse.html>

Indices (under Grade 4 section),

Algebraic fractions (under grade 7),

Expanding and factorising quadratics (grade 5) plus Expanding triple brackets (grade 6),

Factorising harder quadratics (grade 7),

Changing the subject of a formula (grade 5) plus Rearranging harder formulae (grade 7)

Questions and answers are in the word file labelled "Maths Transition Topics 1".

2. Surds and Indices: Negative indices, fractional indices, change of base, simplifying surds, adding and subtracting surds, multiplying surds including brackets, rationalising denominators)

Websites and videos if you need to revise these topics:

**Corbett Maths:** <https://corbettmaths.com/contents/>

Indices videos 173-175,

Surds simplifying: video 305

Brackets with surds video 308

Change of base: see below

Adding and subtracting surds video 306,

Rationalising denominators video 307

**Maths genie:** <https://www.old.mathsgenie.co.uk/gcse.html>

Fractional and negative Indices (grade 6),

Surds (grade 7)

Change of base: see below

Change of base videos: <https://www.youtube.com/watch?v=sCdXUelsaBA>

<https://www.youtube.com/watch?v=kxPpDahdljM>

Questions and answers are in the word file labelled "Maths Transition Topics 2".

- Quadratic Equations (Completing the square, solving quadratic equations, discriminant, sketching quadratic graphs).

Websites and videos if you need to revise these topics:

**Corbett Maths:** <https://corbettmaths.com/contents/>

Completing the square video 10

Solve quadratic equations videos 266-267a

Sketching quadratic graphs video 264-265b

Discriminant video (this Corbett one is on youtube) <https://www.youtube.com/watch?v=gECPu2kHTSo>

**Maths genie:** <https://www.old.mathsgenie.co.uk/gcse.html>

Completing the square (section grade 8/9)

Solving quadratics (grade 5)

Quadratic formula (grade 7)

Sketching quadratic graphs not here

Questions and answers are in the word file labelled "Maths Transition Topics 3".