



**Shenley Brook End Sixth Form
Summer transition tasks for A
Level Mathematics**

Due date Wednesday 16 September 2024

Maths – exam board Edexcel

Objectives:

- Multiply and divide integer powers.
- Expand a single term over brackets and collect like terms.
- Expand the product of two or three expressions.
- Factorise linear, quadratic, and simple cubic expressions.
- Know and use the laws of indices.
- Simplify and use the rules of surds.
- Rationalise denominators.

Tasks overview

- 1) Work through Task 1
- 2) Complete the initial summer assessment and use it to determine areas you should work on
- 3) Work on areas from task 2 ready for in class baseline Assessment first maths lesson in September

Resources/Research

- CGP Headstart to A Level Maths
- www.corbettmaths.com
- www.mathsgenie.co.uk
- www.physicsandmathstutor.com

AS Level Textbooks Used By SBE

- Pearson Edexcel AS and A level Mathematics Pure Mathematics Year 1/AS Textbook + e-book (A level Maths and Further Maths 2017)
- Edexcel AS and A level Mathematics Statistics & Mechanics Year 1/AS Textbook + e-book

Wider Reading List

- **Does God Play Dice** by *Ian Stewart*
- **Chaos** by *James Gleick*
- **The Codebook** by *Simon Singh*
- **The Mathematics of Ciphers** by *S.C. Coutinho*
- **In Code** by *Sara Flannery*
- **A History of Mathematics** by *Carl B. Boyer*
- **Infinity: The Quest to Think the Unthinkable** by *Brian Clegg*
- **E, the Story of a Number** by *Eli Maor*
- **The Man Who Loved Only Numbers** by *Paul Hoffman*
- **My Brain is Open: The Mathematical Journeys of Paul Erdos** by *Bruce Schechter*

- **The Man who knew Infinity** by *Robert Kanigel*
- **Abel's Proof: An Essay on the Sources and Meaning of Mathematical Unsolvability** by *Peter Pesic*
- **A Brief History of Time** by *Stephen Hawking*
- **The Elegant Universe** by *Brian Greene*
- **The Fabric of the Cosmos** by *Brian Greene*
- **Introduction to Mathematical Philosophy** by *Bertrand Russell*
- **A Mathematician's Apology** by *G. H. Hardy*
- **Thinking About Mathematics** by *Stewart Shapiro*

Task 1

1) Watch and make notes on the following. Some links have more than one video make sure you watch and make notes on them all!

- [Introduction to indices \(exponents\) | ExamSolutions | Pure-Maths-A-Level | A-Level | Edexcel](#)
- [Multiplication rules for indices | ExamSolutions | Pure-Maths-A-Level | A-Level | Edexcel](#)
- [Division rule for indices | ExamSolutions | Pure-Maths-A-Level | A-Level | Edexcel](#)
- [Negative indices | ExamSolutions | Pure-Maths-A-Level | A-Level | Edexcel](#)
- [Introduction to factorising | ExamSolutions | Pure-Maths-A-Level | A-Level | Edexcel](#)
- [Highest common factor \(HCF\) | ExamSolutions | Pure-Maths-A-Level | A-Level | Edexcel](#)
- [Factorising by grouping | ExamSolutions | Pure-Maths-A-Level | A-Level | Edexcel](#)
- [Factorising quadratic expressions | ExamSolutions | Pure-Maths-A-Level | A-Level | Edexcel](#)
- [Mixed Exercise - Factorising | ExamSolutions | Pure-Maths-A-Level | A-Level | Edexcel](#)
- [Surds - introduction & simplifying | ExamSolutions | Pure-Maths-A-Level | A-Level | Edexcel](#)
- [Addition and subtraction of surds | ExamSolutions | Pure-Maths-A-Level | A-Level | Edexcel](#)
- [Multiplying surds | ExamSolutions | Pure-Maths-A-Level | A-Level | Edexcel](#)
- [Dividing surds | ExamSolutions | Pure-Maths-A-Level | A-Level | Edexcel](#)
- [Rationalising surds | ExamSolutions | Pure-Maths-A-Level | A-Level | Edexcel](#) • [GCSE expanding brackets | Examsolutions](#)

2) Complete the assessment below. This is an online form. Please enter your full name and school you attended for GCSE. Once completed the form will allow you to save or print your answer at the end please do this and bring to your first maths lesson in September

<https://forms.office.com/e/QdrDuZybzp>

Submission Date

16th September 2024