

Goals

This week we are going to:

- Review indices, including fractional and negative, and index laws
- Use radicals and convert to and from fractional indices
- Understand and use scientific notation and significant numbers
- Practise using CAS



Theoretical Components

Make notes on the following chapters:

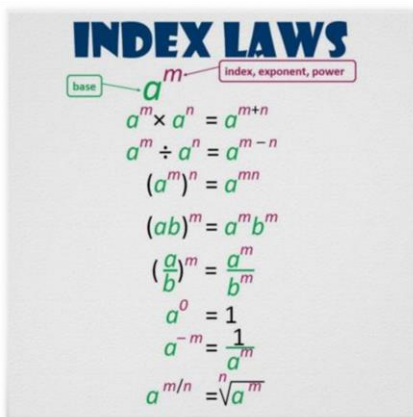
Maths Quest 11 Mathematical Methods

- 5A Index Laws
- 5B Negative and rational powers
- 5C Indicial Equations
- 5D Graphs of exponential functions

Cambridge Mathematics Unit 3

- 6A Indices

<https://www.youtube.com/watch?app=desktop&v=l2yuDvwYq5g>



Practical Components

Do the following questions:

Organise your solutions neatly in your exercise book.

You will require Chapter 5 of Maths Quest 11 Mathematical Methods (pdf – Google Classroom)

- 5A: 1a, 1d, 2a, 2d, 3a, 3d, 4
- 5B: all
- 5C: 6-8, (9-10 if you have a CAS)
- 5D: 1a, 1b, 2c, 2d, 3a, 3h, 4-6

Cambridge Unit 3 textbook

- 6A: 11c, 11e, 14, 16c, 16d, 18a

Investigation

See next page

Other

Make sure you have joined the Google Classroom. If you have not, see your teacher.

Week 1 Investigation

1. Prove $12^n = 2^{2n} \times 3^n$
2. Prove $3^n + 3^{n+1} = 4 \times 3^n$
3. Show that $\frac{pq^{-1} - p^{-1}q}{p^2q^{-2} - p^{-2}q^2} = \frac{pq}{p^2 + q^2}$
4. Solve for n: $2^{3n+1} = 64$