



Learning Brief

SMM3
Logarithmic Functions
and Further
differentiation and
applications

Goals

$$\log_a x = \frac{\ln x}{\ln a}$$

This week we are:

- Solving indicial and logarithmic equations using base e
- Further graphing logarithmic functions. Domain and range
- Use natural logarithms to the base e. Learn notation used
- Using exponential and logarithmic modelling

Theoretical Components

STEP 1

Lessons

Domain and Range of Logarithmic Functions
<https://mathspace.co/textbook/subtopic/39038/lessons>

Natural Logarithms
<https://mathspace.co/textbook/subtopic/39048/lessons>

Practical Components

STEP 2

Do the following Mathspace:

Domain and Range of Logarithmic Functions

Natural Logarithms

Exercises 3E, 3F and 3G (GC)

Do as many as you need to become proficient at these skills and concepts.

Investigation

STEP 3

Chapter 3 page 113 **Questions 1, 2 and 3 on Career Profile**

See the next page.

QFO

Quiz/Forum/Other

Remember to scan in when you come to the Maths Area and when you leave

INVESTIGATION Week 4

Questions

1. Suggest why Tony's job carries a great deal of responsibility.
2. Use the formula Tony quoted to calculate the power gain for an amplifier when $P_1 = 10\,000$ and $P_2 = 1\,000$.
3. Investigate Mathematics prerequisites for courses in aviation technology.

Write a sentence or two for question 1 and show working for question 2. Write a paragraph for question 3. Include your sources for your response to question 3.

If you wish to investigate another related course, say airline pilot or aeronautical engineer, you may.