

**Week**

**Term**

**2015**

6

2

TM1 Matrices, Sequences and Mensuration

Learning Brief

Topic: Sequences and Series

* Recognise the importance of number sequences and series in our everyday lives
* Use number sequences and series in our everyday lives

Describing a number sequence?

Recognising a number sequence

What is an arithmetic sequence and how to find terms of arithmetic sequence?

Goals



Practical Components

**STEP 2:**

Recognition of Arithmetic Sequences

**e-book 1(purple book) :**

**Exercise 5A**

1&2(a-f), 9&10(all), 11(all), 12-15.

**Exercise 5B**

1(a,d,e,f), 2(a,d), 3(c,d), 4, 5, 7-9, 13, 14, 15, 17-20.

Theoretical Components

**STEP 1:**

A sequence in mathematics is an ordered set of numbers. Sequences are strings of numbers. They may be finite in number or infinite. Number sequences may follow an easily recognisable pattern or they may not.

An arithmetic sequence is one in which: the difference between any two successive terms is the same, or the next term in the sequence is found by adding the same number.

**The first term of an arithmetic sequence is referred to as ‘a’. The common difference between successive terms is referred to as ‘d’.**

**tn is the term number; for example, t6 refers to the 6th term in the sequence.**

**JacPlus e-book** : Maths Quest 12 : Further Mathematics

Chapter 5 Read Section 5A & 5B, study the worked examples and view the tutorial for “Find the term number given its value and the beginning of an arithmetic sequence”.

View this in the e-book “resources” in the “eLessons” or the link:

<http://www.jacplus.com.au/secure/Searchlight?searchbox=eles-1268>

Additional References:

<http://www.mathsisfun.com/algebra/sequences-sums-arithmetic.html>

<http://www.regentsprep.org/regents/math/algtrig/atp2/arithseq.htm>

Videos:

<https://www.youtube.com/watch?v=Uy_L8tnihDM>

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

Investigation

**STEP 4:**

Imagine you have the chance to work in the holidays for **two full weeks** and that you have the choice of **two** **methods of payment**. The boss says she will pay you $100/day for the 14 days, or she will pay you $1 for the first day, the second day $2, the third day $4 and so on. Provide a worked response indicating what method of payment you would prefer and why.

Q/F/O

**STEP 3:**

None this week. Use your time to catch up all the work from Week 1 to Week 4.