

Name: _____ () Class: _____ Date: _____

Lesson Worksheet 12.2(II+)

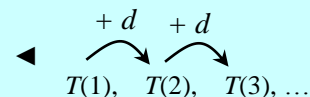
Objective: To find the general term of an arithmetic sequence.

An arithmetic sequence is a sequence in which the difference between any term (except the first term) and its preceding term is a constant.

$$\text{i.e. } T(2) - T(1) = T(3) - T(2) = \dots = T(n) - T(n-1) = d$$

where n is a positive integer

and the constant d is called the common difference.



1. The 11th term and the 20th term of an arithmetic sequence are -4 and 0.5 respectively.
 - (a) Find the general term $T(n)$ of the sequence.
 - (b) Determine whether 100 is a term of the sequence.

→Exercise 12.2: 25 – 27, 32

2. An arithmetic sequence a, b, c, d, e with common difference m is given. Is each of the following sequences an arithmetic sequence? If yes, find the common difference of the sequence in terms of m .
 - (a) $5 - 4a, 5 - 4b, 5 - 4c, 5 - 4d, 5 - 4e$
 - (b) $8 \log 3^a, 8 \log 3^b, 8 \log 3^c, 8 \log 3^d, 8 \log 3^e$

Try More

5. The product of the k th term and the $(k + 1)$ th term of an arithmetic sequence with non-zero common difference d is five times the square of the first term a of the sequence. If $a = -2d$, find the value of k .