

A discrete function is comprised of a set of points that are not connected by a line (not continuous).

An arithmetic sequence is formed by repeatedly adding or subtracting a constant amount.

Ex. Determine whether or not each sequence is arithmetic.

a) 10, 16, 22, 28, . . .

b) 18, 23, 29, 36, . . .

Ex. Determine the first 5 terms in a sequence with a first term of 20 and a common difference of  $-7$ .

We can determine any term in an arithmetic sequence:  $t_n = a + (n - 1)d$

by keeping track of:

$a$  - the first term

$d$  - the common difference

$(n - 1)$  - the number of times  $d$  must be added to the first term

Ex. Determine the 100<sup>th</sup> term in the arithmetic sequence  $-60, -57, -54, -51, \dots$

Ex. Determine the number of terms in the sequence  $75, 63, 51, 39, \dots, -357$ .

Ex. Determine an equation for the general term,  $t_n$ , in an arithmetic sequence with  $t_{10} = -80$  and  $t_{25} = 100$