Arithmetic Series

The sum of the terms of an arithmetic sequence forms an arithmetic series.

Remember:

The formula for the sum of the first n terms in an arithmetic sequence is

where

= sum d = common difference

= first term

Illustrative Examples:

a. Find the sum of the first ten terms of the arithmetic sequence 4, 10, 16,…

b. Find the sum of the first 12 terms of the arithmetic sequence 50, 47, 44, 41, 38,…

c. Find the sum of the first 20 terms of the arithmetic sequence 3, 5, 7, 9,11,…

d. Find the sum of the first 10 terms of the arithmetic sequence 5, 9, 13, 17,…

e. Fund the sum of the first 20 terms of the arithmetic sequence -2, -5, -8, -11,…

f. Find the sum of the first 15 terms of the arithmetic sequence 3, 6, 9,…

g. How many terms of the arithmetic sequence 20, 18, 16,…must be added so that the sum will be -100?