

Arithmetic Sequences (10.2)

Arithmetic Sequences –

difference –

Identifying Arithmetic Sequences: State whether the following sequence is arithmetic. If it is arithmetic, identify the common difference.

1) $2, -3, -8, -13, \dots$

2) $3, 4.5, 6, 7.5, 9, \dots$

General Term of an Arithmetic Sequence

$a_n =$

Common Difference of non-consecutive terms

$d =$

3) Write a **formula** for the n th term of the arithmetic sequence whose common difference is 3 and whose first term is 2.

4) Write a formula for the n th term of the arithmetic sequence whose 1st term is -4 and whose 5th term is 16.

5) The 10th term of an arithmetic sequence is 8 and the 25th is -22. Find the 30th term.

6) The 4th term of an arithmetic sequence is 20, and the 13th term is 65. Find the 40th term.

Sum of a Finite Arithmetic Sequence

$$S_n =$$

9) Find the sum of the integers from 1 to 100.

10) $1 + 3 + 5 + 7 + 9 + \cdots + 19$

11) Find the sum of 150 terms of the arithmetic sequence 5, 16, 27, 38, 49, ...

12) $\sum_{n=1}^{400} (2n-1)$

13) $\sum_{i=1}^{34} (1+8i)$

14) $\sum_{k=8}^{45} (-3k+22)$