

Precalculus

10-03 Arithmetic Sequences and Series

Arithmetic Sequence

- Common _____ (d)
- 3, 7, 11, 15, 19, ...

Rule for the n^{th} term

$$a_n = dn + c$$

Where $c = a_1 - d$

$$a_n = a_1 + (n - 1)d$$

Find the rule for the n^{th} term for 3, 7, 11, 15, 19, ...

The 8th term of an arithmetic sequence is 25, and the 12th term is 41. Write the rule for the n^{th} term.

Recursive Rule for Arithmetic Sequences

$$a_1 = a_1$$

$$a_n = a_{n-1} + d$$

Arithmetic Series

$$S_n = \frac{n}{2}(a_1 + a_n)$$

Find the sum of the integers 1 to 57.

Find the 50th partial sum of the arithmetic sequence $-6, -2, 2, 6, \dots$

Evaluate

$$\sum_{i=1}^{100} (3i + 2)$$