

Sequences and Series Assignment

- Given the formula for the n th term, list the first five terms of each sequence
 - $t_n = 2n - 1$
 - $t_n = 2^{n-1}$
 - $t_n = n^2 - 1$
- John has started working at a restaurant. The manager has agreed to pay him \$7.35/h to start and to increase his hourly rate by \$0.35 every 3 months.
 - Make a table to show John's hourly wage for the first 2 years at the restaurant.
 - Write a formula for the n th term that determines this sequence, where n represents every three months.
- Find the formula for the n th term also the values for the indicated terms for each arithmetic sequence.
 - 5, 13, 21, ... ; t_{19} and t_{57}
 - $-19, -9\frac{1}{2}, 0, \dots$; t_{13} and t_{23}
- Find the number of terms in each of the following arithmetic sequences.
 - 7, 14, 21, ... , 161
 - $-3, 3, 9, \dots, 321$
- Find a and d , and then write the formula for the n th term, t_n , for each of the arithmetic sequences with the indicated terms.
$$t_{10} = 7 \text{ and } t_{18} = 15$$
- Find the sum of the arithmetic series.
 - $a = -1$; $t_{15} = 13$ Find S_{15}
 - $21 + 15 + 9 + \dots$ Find S_{10}
- Find the formula for the n th term for each of the following geometric sequence. Then find the values of the indicated terms. $64, -16, 4, \dots$; t_6 and t_{10}
- Find the number of terms in the following geometric sequence: $8, 12, 18, \dots, 40.5$.
- Determine the sum of the geometric series $2 + 6 + 18 + \dots + 1458$.
- Determine an arithmetic series such that the sum of the first 9 terms of the series is 162 and the sum of the first 12 terms is 288.