

DO NOW

$$S_n = \frac{n}{2}(t_1 + t_n)$$

1) Using the arithmetic series formula, add up the following arithmetic series:

-5, -3, -1, 1, 3, 5, 7, 9, 11, 13

2) Evaluate: $\sum_{m=1}^{12} 6 - 2m$

3) If $t_1 = 6$, $t_{50} = 210$, find the sum of the first 50 terms of the arithmetic sequence.

Objectives

- Find the sum of the first n terms of an arithmetic series
- Use the formula to evaluate an arithmetic series

$$S_n = \frac{n}{2}(t_1 + t_n)$$

1) Given $3 + 12 + 21 + 30 + \dots$, find S_{25} .

$n =$ _____ $t_1 =$ _____ $t_n =$ _____

$$S_n =$$

$$t_n =$$

1) Find the sum of the series: $15 + 21 + 27 + 33 + \dots + 63$

$$n = \underline{\hspace{2cm}} \quad t_1 = \underline{\hspace{2cm}} \quad t_n = \underline{\hspace{2cm}}$$

$S_n =$	$t_n =$
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Arithmetic Series**Evaluate the related series of each sequence.**

9) $\sum_{i=1}^6 3i$

10) $\sum_{n=1}^{45} (3n - 9)$

15) $20 + 27 + 34 + 41\dots, n = 16$

16) $20 + 30 + 40 + 50\dots, n = 15$

17) $7 + 9 + 11 + 13\dots, n = 10$

18) $10 + 12 + 14 + 16\dots, n = 11$

Determine the number of terms n in each arithmetic series.

19) $a_1 = 19, a_n = 96, S_n = 690$

20) $a_1 = 16, a_n = 163, S_n = 4475$

Homework: p. 710 -711 # 10 - 12, 22 - 24