

## Arithmetic Series

Evaluate the related series of each sequence.

1) 13, 15, 17, 19, 21, 23

2) 6, 11, 16, 21, 26, 31, 36

3) 22, 28, 34, 40, 46

4) 39, 49, 59, 69

Evaluate each arithmetic series described.

5)  $\sum_{k=1}^{35} (5k - 2)$

6)  $\sum_{i=1}^{35} (3i - 13)$

7)  $\sum_{m=1}^{15} 4m$

8)  $\sum_{m=1}^{10} (7m - 2)$

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

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

11)  $a_1 = 42, a_n = 146, n = 14$

12)  $a_1 = 4, a_n = 22, n = 10$

13)  $a_1 = 2, a_n = 122, n = 13$

14)  $a_1 = -18, a_n = -102, n = 13$

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

21)  $a_1 = 19, a_n = 118, S_n = 822$

22)  $a_1 = 15, a_n = 79, S_n = 423$

23)  $a_1 = -3, d = 2, S_n = 21$

24)  $a_1 = 4, d = 7, S_n = 228$

25)  $(-2) + (-12) + (-22) + (-32) \dots, S_n = -224$

26)  $(-16) + (-26) + (-36) + (-46) \dots, S_n = -1818$