

## 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.**

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

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

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

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

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

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

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

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

## Arithmetic Series

**Evaluate the related series of each sequence.**

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

108

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

147

3) 22, 28, 34, 40, 46

170

4) 39, 49, 59, 69

216

**Evaluate each arithmetic series described.**

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

3080

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

1435

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

480

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

365

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

63

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

2700

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

1316

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

130

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

806

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

-780

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

1160

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

1350

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

160

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

220

**Determine the number of terms  $n$  in each arithmetic series.**

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

12

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

50

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

12

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

9

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

7

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

8

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

7

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

18