

## 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