

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 and Geometric Means

Date _____ Period _____

Find the missing term or terms in each arithmetic sequence.

1) ..., 29, ____, -31, ...

2) ..., -20, ____, -40, ...

3) ..., 13, ____, 7, ...

4) ..., -23, ____, -3, ...

5) ..., 9, ____, 3, ...

6) ..., 36, ____, 56, ...

7) ..., -16.3, ____, -20.5, ...

8) ..., -30, ____, 30, ...

9) ..., $-\frac{4}{7}$, ____, $-\frac{68}{21}$, ...

10) ..., 32, ____, ____, ____, 68, ...

11) ..., $\frac{3}{5}$, ____, ____, ____, $\frac{29}{15}$, ...

12) ..., 10, ____, ____, ____, 130, ...

13) ..., -7.7, ____, ____, -16.4, ...

14) ..., 19, ____, ____, -71, ...

Find the missing term or terms in each geometric sequence.

15) ..., -3, ____, -108, ...

16) ..., -2, ____, -18, ...

17) ..., -3, ____, -75, ...

18) ..., 2, ____, 18, ...

19) ..., -2, ____, -8, ...

20) ..., -1, ____, -4, ...

21) ..., 1.5, ____, 6, ...

22) ..., $-\frac{1}{2}$, ____, $-\frac{1}{50}$, ...

23) ..., -1, ____, -16, ...

24) ..., 3125, ____, ____, ____, 5, ...

25) ..., $-\frac{25}{8}$, ____, ____, ____, $-\frac{32}{25}$, ...

26) ..., 1, ____, ____, ____, 16, ...

27) ..., 3, ____, ____, 648, ...

28) ..., -1, ____, ____, -27, ...