

Arithmetic/Geometric Series Practice

Date _____ Period _____

Evaluate each series (a.k.a. "Find the sum").

1) 2, 8, 14, 20, 26, 32

2) 1, 10, 19, 28

Evaluate the Arithmetic series.

3) $a_1 = 18, a_n = 48, n = 7$

4) $a_1 = 7, a_n = 152, n = 30$

5) $a_1 = -7, a_n = -35, n = 8$

6) $a_1 = 17, a_n = 107, n = 10$

7) $a_1 = 15, d = 10, n = 11$

8) $a_1 = 37, d = 10, n = 9$

9) $a_1 = 7, d = 2, n = 5$

10) $a_1 = 36, d = 9, n = 7$

11) $17 + 25 + 33 + 41\dots, n = 17$

12) $18 + 25 + 32 + 39\dots, n = 17$

13) $20 + 29 + 38 + 47\dots, n = 17$

14) $(-20) + (-26) + (-32) + (-38)\dots, n = 11$

Evaluate the series.

15) $-3 - 15 - 75 - 375\dots, n = 7$

16) $4 - 16 + 64 - 256\dots, n = 7$

Determine if each geometric series converges or diverges.

17) $a_1 = -3, r = 3$

18) $a_1 = 1, r = 4$

19) $-2 + \frac{6}{5} - \frac{18}{25} + \frac{54}{125}\dots$

20) $-4 + 5 - \frac{25}{4} + \frac{125}{16}\dots$

Evaluate each infinite geometric series.

21) $a_1 = 9.9, r = 0.8$

22) $a_1 = 1.2, r = 0.4$

23) $-2.6 - 1.3 - 0.65 - 0.325\dots$

24) $5 + 3 + \frac{9}{5} + \frac{27}{25}\dots$

Arithmetic/Geometric Series Practice

Date _____ Period _____

Evaluate each series (a.k.a. "Find the sum").

1) 2, 8, 14, 20, 26, 32

102

2) 1, 10, 19, 28

58

Evaluate the Arithmetic series.

3) $a_1 = 18, a_n = 48, n = 7$

231

4) $a_1 = 7, a_n = 152, n = 30$

2385

5) $a_1 = -7, a_n = -35, n = 8$

-168

6) $a_1 = 17, a_n = 107, n = 10$

620

7) $a_1 = 15, d = 10, n = 11$

715

8) $a_1 = 37, d = 10, n = 9$

693

9) $a_1 = 7, d = 2, n = 5$

55

10) $a_1 = 36, d = 9, n = 7$

441

11) $17 + 25 + 33 + 41\dots, n = 17$

1377

12) $18 + 25 + 32 + 39\dots, n = 17$

1258

13) $20 + 29 + 38 + 47\dots, n = 17$

1564

14) $(-20) + (-26) + (-32) + (-38)\dots, n = 11$

-550

Evaluate the series.

15) $-3 - 15 - 75 - 375\dots, n = 7$

-58593

16) $4 - 16 + 64 - 256\dots, n = 7$

13108

Determine if each geometric series converges or diverges.

17) $a_1 = -3, r = 3$

Diverges

18) $a_1 = 1, r = 4$

Diverges

19) $-2 + \frac{6}{5} - \frac{18}{25} + \frac{54}{125}\dots$

Converges

20) $-4 + 5 - \frac{25}{4} + \frac{125}{16}\dots$

Diverges

Evaluate each infinite geometric series.

21) $a_1 = 9.9, r = 0.8$

49.5

22) $a_1 = 1.2, r = 0.4$

2

23) $-2.6 - 1.3 - 0.65 - 0.325\dots$

-5.2

24) $5 + 3 + \frac{9}{5} + \frac{27}{25}\dots$

$\frac{25}{2}$