

Arithmetic/Geometric Series Practice

Date _____ Period _____

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

1) 33, 42, 51, 60

2) -2, 3, 8, 13, 18, 23, 28

Evaluate the Arithmetic series.

3) $a_1 = -16$, $a_n = -40$, $n = 13$

4) $a_1 = 6$, $a_n = 14$, $n = 5$

5) $a_1 = -3$, $a_n = 51$, $n = 10$

6) $a_1 = -5$, $a_n = -15$, $n = 6$

7) $a_1 = 27$, $d = 10$, $n = 7$

8) $a_1 = 14$, $d = 9$, $n = 9$

9) $a_1 = 36$, $d = 10$, $n = 13$

10) $a_1 = 23$, $d = 6$, $n = 35$

11) $10 + 16 + 22 + 28\dots$, $n = 10$

12) $38 + 47 + 56 + 65\dots$, $n = 11$

13) $23 + 33 + 43 + 53 \dots, n = 11$

14) $(-15) + (-25) + (-35) + (-45) \dots, n = 10$

Evaluate the series.

15) $-3 - 12 - 48 - 192 \dots, n = 9$

16) $2 + 6 + 18 + 54 \dots, n = 6$

Determine if each geometric series converges or diverges.

17) $a_1 = 4, r = \frac{1}{2}$

18) $a_1 = -9.9, r = 0.8$

19) $3 - 12 + 48 - 192 \dots$

20) $2 - 8 + 32 - 128 \dots$

Evaluate each infinite geometric series.

21) $a_1 = \frac{1}{2}, r = -\frac{4}{5}$

22) $a_1 = 2, r = \frac{2}{3}$

23) $5 + \frac{10}{3} + \frac{20}{9} + \frac{40}{27} \dots$

24) $-5 + \frac{15}{4} - \frac{45}{16} + \frac{135}{64} \dots$

Arithmetic/Geometric Series Practice

Date _____ Period _____

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

1) 33, 42, 51, 60

186

2) -2, 3, 8, 13, 18, 23, 28

91

Evaluate the Arithmetic series.

3) $a_1 = -16$, $a_n = -40$, $n = 13$

-364

4) $a_1 = 6$, $a_n = 14$, $n = 5$

50

5) $a_1 = -3$, $a_n = 51$, $n = 10$

240

6) $a_1 = -5$, $a_n = -15$, $n = 6$

-60

7) $a_1 = 27$, $d = 10$, $n = 7$

399

8) $a_1 = 14$, $d = 9$, $n = 9$

450

9) $a_1 = 36$, $d = 10$, $n = 13$

1248

10) $a_1 = 23$, $d = 6$, $n = 35$

4375

11) $10 + 16 + 22 + 28\dots$, $n = 10$

370

12) $38 + 47 + 56 + 65\dots$, $n = 11$

913

13) $23 + 33 + 43 + 53\dots, n = 11$

803

14) $(-15) + (-25) + (-35) + (-45)\dots, n = 10$

-600

Evaluate the series.

15) $-3 - 12 - 48 - 192\dots, n = 9$

-262143

16) $2 + 6 + 18 + 54\dots, n = 6$

728

Determine if each geometric series converges or diverges.

17) $a_1 = 4, r = \frac{1}{2}$

Converges

18) $a_1 = -9.9, r = 0.8$

Converges

19) $3 - 12 + 48 - 192\dots$

Diverges

20) $2 - 8 + 32 - 128\dots$

Diverges

Evaluate each infinite geometric series.

21) $a_1 = \frac{1}{2}, r = -\frac{4}{5}$

 $\frac{5}{18}$

22) $a_1 = 2, r = \frac{2}{3}$

6

23) $5 + \frac{10}{3} + \frac{20}{9} + \frac{40}{27}\dots$

15

24) $-5 + \frac{15}{4} - \frac{45}{16} + \frac{135}{64}\dots$

 $-\frac{20}{7}$