

## Arithmetic/Geometric Series Practice

Date \_\_\_\_\_ Period \_\_\_\_\_

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

1)  $-37, -47, -57, -67$

2)  $39, 48, 57, 66, 75$

**Evaluate the Arithmetic series.**

3)  $a_1 = 0, a_n = 132, n = 45$

4)  $a_1 = 5, a_n = 65, n = 11$

5)  $a_1 = 19, a_n = 82, n = 8$

6)  $a_1 = -2, a_n = 34, n = 7$

7)  $a_1 = 19, d = 8, n = 20$

8)  $a_1 = 12, d = 9, n = 5$

9)  $a_1 = 6, d = 3, n = 40$

10)  $a_1 = 5, d = -3, n = 30$

11)  $19 + 29 + 39 + 49 \dots, n = 7$

12)  $(-20) + (-25) + (-30) + (-35) \dots, n = 17$

13)  $(-3) + (-7) + (-11) + (-15)\dots, n = 19$

14)  $10 + 13 + 16 + 19\dots, n = 16$

**Evaluate the series.**

15)  $2 - 10 + 50 - 250\dots, n = 7$

16)  $3 + 15 + 75 + 375\dots, n = 7$

**Determine if each geometric series converges or diverges.**

17)  $a_1 = 9.3, r = 0.2$

18)  $a_1 = -3, r = -4$

19)  $1 + 2 + 4 + 8\dots$

20)  $\frac{2}{3} + \frac{1}{6} + \frac{1}{24} + \frac{1}{96}\dots$

**Evaluate each infinite geometric series.**

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

22)  $a_1 = -5, r = -\frac{1}{3}$

23)  $-0.6 - 0.54 - 0.486 - 0.4374\dots$

24)  $-2.6 + 1.56 - 0.936 + 0.5616\dots$

## Arithmetic/Geometric Series Practice

Date \_\_\_\_\_ Period \_\_\_\_\_

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

1)  $-37, -47, -57, -67$

**-208**

2)  $39, 48, 57, 66, 75$

**285****Evaluate the Arithmetic series.**

3)  $a_1 = 0, a_n = 132, n = 45$

**2970**

4)  $a_1 = 5, a_n = 65, n = 11$

**385**

5)  $a_1 = 19, a_n = 82, n = 8$

**404**

6)  $a_1 = -2, a_n = 34, n = 7$

**112**

7)  $a_1 = 19, d = 8, n = 20$

**1900**

8)  $a_1 = 12, d = 9, n = 5$

**150**

9)  $a_1 = 6, d = 3, n = 40$

**2580**

10)  $a_1 = 5, d = -3, n = 30$

**-1155**

11)  $19 + 29 + 39 + 49\dots, n = 7$

**343**

12)  $(-20) + (-25) + (-30) + (-35)\dots, n = 17$

**-1020**

13)  $(-3) + (-7) + (-11) + (-15)\dots, n = 19$

-741

14)  $10 + 13 + 16 + 19\dots, n = 16$

520

**Evaluate the series.**

15)  $2 - 10 + 50 - 250\dots, n = 7$

26042

16)  $3 + 15 + 75 + 375\dots, n = 7$

58593

**Determine if each geometric series converges or diverges.**

17)  $a_1 = 9.3, r = 0.2$

Converges

18)  $a_1 = -3, r = -4$

Diverges

19)  $1 + 2 + 4 + 8\dots$

Diverges

20)  $\frac{2}{3} + \frac{1}{6} + \frac{1}{24} + \frac{1}{96}\dots$

Converges

**Evaluate each infinite geometric series.**

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

$\frac{8}{3}$

22)  $a_1 = -5, r = -\frac{1}{3}$

$-\frac{15}{4}$

23)  $-0.6 - 0.54 - 0.486 - 0.4374\dots$

-6

24)  $-2.6 + 1.56 - 0.936 + 0.5616\dots$

-1.625