

Due Tuesday

Finite Geometric Series

#1-26 All

Evaluate the related series of each sequence.

1) 2, 12, 72, 432

2) -1, 5, -25, 125

3) -2, 6, -18, 54, -162

4) -2, -12, -72, -432, -2592

Evaluate each geometric series described.

5)  $\sum_{k=1}^7 4^{k-1}$

6)  $\sum_{i=1}^8 (-6)^{i-1}$

7)  $\sum_{i=1}^9 2^{i-1}$

8)  $\sum_{m=1}^9 -2^{m-1}$

9)  $\sum_{n=1}^8 2 \cdot (-2)^{n-1}$

10)  $\sum_{n=1}^9 4 \cdot 3^{n-1}$

11)  $\sum_{n=1}^{10} 4 \cdot (-3)^{n-1}$

12)  $\sum_{n=1}^9 (-2)^{n-1}$

13)  $1 + 2 + 4 + 8 \dots, n = 6$

14)  $2 - 10 + 50 - 250 \dots, n = 8$

15)  $1 - 4 + 16 - 64 \dots, n = 9$

16)  $-2 - 6 - 18 - 54 \dots, n = 9$

17)  $1 - 5 + 25 - 125 \dots, n = 7$

18)  $-3 - 6 - 12 - 24 \dots, n = 9$

19)  $a_1 = 4, a_n = 1024, r = -2$

20)  $a_1 = 4, a_n = 8748, r = 3$

Determine the number of terms  $n$  in each geometric series.

21)  $a_1 = -2, r = 5, S_n = -62$

22)  $a_1 = 3, r = -3, S_n = -60$

23)  $a_1 = -3, r = 4, S_n = -4095$

24)  $a_1 = -3, r = -2, S_n = 63$

25)  $-4 + 16 - 64 + 256 \dots, S_n = 52428$

26)  $\sum_{m=1}^n -2 \cdot 4^{m-1} = -42$

SHOW WORK ON SEPARATE PAPER

Due Tuesday

Kuta Software - Infinite Algebra 2

#1-26 All

Name \_\_\_\_\_

## Arithmetic Series

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

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)  $(-16) + (-26) + (-36) + (-46) \dots, S_n = -1818$

SHOW WORK ON SEPARATE PAPER



## Finite Geometric Series

**Key****Evaluate the related series of each sequence.**

1) 2, 12, 72, 432

518

2) -1, 5, -25, 125

104

3) -2, 6, -18, 54, -162

-122

4) -2, -12, -72, -432, -2592

-3110

**Evaluate each geometric series described.**

5)  $\sum_{k=1}^7 4^{k-1}$

5461

6)  $\sum_{i=1}^8 (-6)^{i-1}$

-239945

7)  $\sum_{i=1}^9 2^{i-1}$

511

8)  $\sum_{m=1}^9 -2^{m-1}$

-511

9)  $\sum_{n=1}^8 2 \cdot (-2)^{n-1}$

-170

10)  $\sum_{n=1}^9 4 \cdot 3^{n-1}$

39364

11)  $\sum_{n=1}^{10} 4 \cdot (-3)^{n-1}$

-59048

12)  $\sum_{n=1}^9 (-2)^{n-1}$

171

13)  $1 + 2 + 4 + 8 \dots, n = 6$

63

14)  $2 - 10 + 50 - 250 \dots, n = 8$

-130208

15)  $1 - 4 + 16 - 64 \dots, n = 9$

52429

16)  $-2 - 6 - 18 - 54 \dots, n = 9$

-19682

17)  $1 - 5 + 25 - 125 \dots, n = 7$

13021

18)  $-3 - 6 - 12 - 24 \dots, n = 9$

-1533

19)  $a_1 = 4, a_n = 1024, r = -2$

684

20)  $a_1 = 4, a_n = 8748, r = 3$

13120

**Determine the number of terms  $n$  in each geometric series.**

21)  $a_1 = -2, r = 5, S_n = -62$

3

22)  $a_1 = 3, r = -3, S_n = -60$

4

23)  $a_1 = -3, r = 4, S_n = -4095$

6

24)  $a_1 = -3, r = -2, S_n = 63$

6

25)  $-4 + 16 - 64 + 256 \dots, S_n = 52428$

8

26)  $\sum_{m=1}^n -2 \cdot 4^{m-1} = -42$

3

## Arithmetic Series

Evaluate the related series of each sequence.

1) 13, 15, 17, 19, 21, 23

108

3) 22, 28, 34, 40, 46

170

2) 6, 11, 16, 21, 26, 31, 36

147

4) 39, 49, 59, 69

216

Evaluate each arithmetic series described.

5)  $\sum_{k=1}^{35} (5k - 2)$

3080

7)  $\sum_{m=1}^{15} 4m$

480

9)  $\sum_{i=1}^6 3i$

63

11)  $a_1 = 42, a_n = 146, n = 14$

1316

13)  $a_1 = 2, a_n = 122, n = 13$

806

15)  $20 + 27 + 34 + 41 \dots, n = 16$

1160

17)  $7 + 9 + 11 + 13 \dots, n = 10$

160

6)  $\sum_{i=1}^{35} (3i - 13)$

1435

8)  $\sum_{m=1}^{10} (7m - 2)$

365

10)  $\sum_{n=1}^{45} (3n - 9)$

2700

12)  $a_1 = 4, a_n = 22, n = 10$

130

14)  $a_1 = -18, a_n = -102, n = 13$

-780

16)  $20 + 30 + 40 + 50 \dots, n = 15$

1350

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

21)  $a_1 = 19, a_n = 118, S_n = 822$

12

23)  $a_1 = -3, d = 2, S_n = 21$

7

25)  $(-2) + (-12) + (-22) + (-32) \dots, S_n = -224$

7

20)  $a_1 = 16, a_n = 163, S_n = 4475$

50

22)  $a_1 = 15, a_n = 79, S_n = 423$

9

24)  $a_1 = 4, d = 7, S_n = 228$

8

26)  $(-16) + (-26) + (-36) + (-46) \dots, S_n = -1818$

18