

## Arithmetic Series Maze

Directions: Use your knowledge of arithmetic series to solve the problems below. Use your solutions to navigate through the maze. **Staple all work to this paper!**

**Start!**

Given:  $\{19 + 25 + 31 + 37 + \dots\}$   
Find:  $S_8$

322

Find the sum:  $\sum_{k=3}^9 (10k - 14)$

276

Given:  $\{15 + 23 + 31 + 39 + \dots\}$   
Find:  $S_9$

423

Given:  $\{7 + (-12) + (-31) + (-50) + \dots\}$   
Find:  $S_7$

336

320

**End!** 😊

1015

$\{27 + \dots\}$

221

204

Find the sum:  $\sum_{k=1}^{13} (2k + 3)$

660

$\{2 + \dots\}$

400

678

Given:  $\{15 + 25 + 35 + 45 + \dots\}$   
Find:  $S_8$

414

## Geometric Series Maze

Directions: Use your knowledge of finite and infinite geometric series to solve the problems below. Use your solutions to navigate through the maze. **Staple all work to this paper!**

**Start!**

Find the sum:  $\sum_{k=1}^7 4 \cdot (3)^{k-1}$

3280

Given:  $\{-2 + 6 - 18 + 54 + \dots\}$   
Find:  $S_8$

9331

Given:  $\{1 + 6 + 36 + 216 + \dots\}$   
Find:  $S_6$

781

**End!** 😊

1456

4372

-328

Given:  $\left\{\left(\frac{1}{2}\right) + (-2) + (-8) + (-32) + \dots\right\}$

10

Find the sum:  $\sum_{m=1}^{\infty} 2 \cdot \left(\frac{4}{5}\right)^m$

$\frac{5461}{2}$

$\frac{4}{5}$

$\frac{635}{64}$

Find the sum:  $\sum_{x=2}^9 (3)^{x-1}$

3280

Given:  $\left\{5 + \frac{5}{2} + \frac{5}{4} + \dots\right\}$   
Find:  $S_7$

3279

9840

729

Find the sum:  $\sum_{n=1}^{\infty} 6 \cdot \left(-\frac{1}{5}\right)^{n-1}$

5

Find the sum:  $\sum_{y=1}^{\infty} 972 \cdot \left(-\frac{1}{3}\right)^{y-1}$

## Arithmetic & Geometric Series Maze

Directions: Use your knowledge of arithmetic and geometric series to solve the problems below. Use your solutions to navigate through the maze. **Staple all work to this paper!**

**Start!**

Find the sum:  $\sum_{x=2}^7 5 \cdot \left(\frac{1}{3}\right)^{x-1}$

-39,063

Given:  $\{-3 + 15 - 75 + 375 + \dots\}$   
Find:  $S_7$

7812

Find the sum:  $\sum_{y=1}^{11} 2y - 7$

50

Given:  $\{3 + 6 + 12 + 24 + \dots\}$   
Find:  $S_7$

381

$\frac{1820}{729}$

$\frac{605}{243}$

39,063

$-\frac{1}{8}$

164

55

Given:  $\{12 + 16 + 20 + 24 + \dots\}$   
Find:  $S_9$

252

Find the sum:  $\sum_{m=1}^{\infty} 5 \cdot \left(\frac{1}{2}\right)^{m-1}$

41

Given:  $\{510 + 398 + 286 + 174 + \dots\}$   
Find:  $S_9$

10

Kayla earns \$0.01 on the first day of her job. If her daily payment doubles each day, what is her total earnings, to the nearest dollar, after two weeks?

54

558

270

10

No Sum

$\frac{10}{3}$

-299

54

558

Find the sum:  $\sum_{p=3}^{15} -3p + 4$

-21

Find the sum:  $\sum_{j=2}^{\infty} 3 \cdot \left(\frac{7}{6}\right)^{j-1}$

No Sum

A section of the baseball stadium has 31 seats in the front row, 35 seats in the second row, and 39 seats in the third row. If the section has 10 rows, find its seating capacity.

136525

256

81925

256

Find the sum:  $\sum_{f=11}^{\infty} -3 \cdot \left(-\frac{4}{3}\right)^{f-1}$

1008

976

-3

3

-276

25.4

Find the sum:  $\sum_{w=1}^{\infty} -\left(\frac{2}{3}\right)^{w-1}$

No Sum

$\frac{3}{5}$

**End!** 😊

51

Tropical Storm Alice produced 0.2 inches of rain on day one, 0.4 inches on day two, and 0.8 inches on day three. Find the total amount of precipitation after eight days.

