

Name _____ Period _____

11-5 Homework

1. Find the sum of the geometric series $0.2 + 0.02 + 0.002 + \dots$ given the formula $S = \frac{a}{1-r}$, where a is the first term, r is the common ratio, and S is the sum.

[A] 0.006 [B] $\frac{2}{9}$ [C] 0.222 [D] $\frac{1}{5}$

[1] _____

2. Find the sum of the geometric series $0.4 + 0.04 + 0.004 + \dots$ given the formula $S = \frac{a}{1-r}$, where a is the first term, r is the common ratio, and S is the sum.

[A] 0.012 [B] $\frac{4}{9}$ [C] 0.444 [D] $\frac{2}{5}$

[2] _____

3. Find the sum of the first 7 terms of the geometric series $\pm 6 - \frac{12}{5} - \frac{24}{25} - \frac{48}{125} - \dots$

[A] -19.68 [B] -27.84 [C] -58.82 [D] -9.98

[3] _____

4. Find the sum of the first 6 terms of the geometric series $3 + \frac{3}{2} + \frac{3}{4} + \frac{3}{8} + \dots$

[A] 5.18 [B] 11.1 [C] 25.5 [D] 5.91

[4] _____

5. Find the sum of the geometric series $(0.993) + (0.993)^2 + (0.993)^3 + \dots$ given the formula

$$S = \frac{a}{1-r}, \text{ where } a \text{ is the first term, } r \text{ is the common ratio, and } S \text{ is the sum.}$$

[5] _____

6. Find the sum of the geometric series $(0.996) + (0.996)^2 + (0.996)^3 + \dots$ given the formula

$$S = \frac{a}{1-r}, \text{ where } a \text{ is the first term, } r \text{ is the common ratio, and } S \text{ is the sum.}$$

[6] _____

7. Find the sum of the first 7 terms of the geometric series $3 + \frac{12}{5} + \frac{48}{25} + \frac{192}{125} + \frac{768}{625} + \dots$

Give the answers to the nearest hundredth, if necessary.

[7] _____

8. Find the sum of the first 7 terms of the geometric series $6 + 8 + \frac{32}{3} + \frac{128}{9} + \frac{512}{27} + \dots$

Give the answers to the nearest hundredth, if necessary.

[8] _____