

10.2 Working with Geometric Series

Calculus

Name: _____

CA #1

1. What is the sum of the infinite geometric series $11 + -\frac{11}{3} + \frac{11}{9} + -\frac{11}{27} + \dots$?

2. What is the value of $\sum_{n=1}^{\infty} \frac{(-e)^{n+1}}{9^n}$?

3. Consider the series $\sum_{n=1}^{\infty} a_n$. If $\frac{a_{n+1}}{a_n} = \frac{1}{5}$ for all integers $n \geq 1$, and $\sum_{n=1}^{\infty} a_n = 50$, then $a_1 =$

4. **Calculator active.** If $f(x) = \sum_{n=1}^{\infty} \left(\cos^2 \frac{x}{2}\right)^n$, then $f(2.4) =$

5. For what value of a does the infinite series $\sum_{n=0}^{\infty} a \left(-\frac{3}{5}\right)^n$ equal 15?

1. $\frac{33}{4}$	2. $\frac{e^{9+e}}{2}$	3. 40	4. 0.1511	5. 24
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Answers to 10.2 CA #1