

10.2 Working with Geometric Series

Calculus

Name: _____

CA #2

1. What is the sum of the infinite geometric series $3 + \frac{6}{5} + \frac{12}{25} + \frac{24}{125} + \dots$?

2. What is the value of $\sum_{n=1}^{\infty} \frac{(-2)^n}{5^{n+1}}$?

3. Consider the series $\sum_{n=1}^{\infty} a_n$. If $\frac{a_{n+1}}{a_n} = \frac{2}{3}$ for all integers $n \geq 1$, and $\sum_{n=1}^{\infty} a_n = 60$, then $a_1 =$

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

5. For what value of a does the infinite series $\sum_{n=0}^{\infty} a \left(-\frac{2}{5}\right)^n$ equal 25?

1. 5	2. $-\frac{35}{2}$	3. 20	4. 0.37298	5. 35
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Answers to 10.2 CA #2