Lesson 9.4 Practice: Infinite Geometric Series

School Launch · Algebra II · Unit 9: Sequences and Series · Worksheet A

Calculator for decimals

Name _____ Date _____ Score _____ / 10

Show your work under each problem, one step per line, and check your answer. Word problems: name the unknown, write the equation, solve, and answer in a sentence with units.

1. Find the sum of the infinite geometric series with $a_1 = 15$ and $r = \frac{1}{2}$. EASY

2. Find the sum of the infinite geometric series with $a_1 = 30$ and $r = \frac{2}{3}$. EASY

3. Find the sum of the infinite geometric series with $a_1 = 16$ and $r = \frac{3}{4}$. EASY

4. Find the sum of the infinite geometric series with $a_1 = 26$ and $r = -\frac{1}{2}$. MEDIUM

5. Find the sum of the infinite geometric series with $a_1 = 28$ and $r = \frac{2}{3}$. MEDIUM

6. Find the sum of the infinite geometric series with $a_1 = 23$ and $r = \frac{1}{2}$. MEDIUM

7. Find the sum of the infinite geometric series with $a_1 = 20$ and $r = -\frac{1}{2}$. MEDIUM

8. Write the repeating decimal $0.\overline{85}$ as a fraction using an infinite geometric series. HARD

9. Write the repeating decimal $0.\overline{05}$ as a fraction using an infinite geometric series. HARD

10. Write the repeating decimal $0.\overline{94}$ as a fraction using an infinite geometric series. HARD