Algebra 2

11-04 Finding Sums of Infinite Geometric Series

Find the partial sums for n = 1, 2, 3, 4, 5 and describe what happens to S_n as n increases. $\frac{1}{5} + \frac{1}{10} + \frac{1}{20} + \frac{1}{40} + \frac{1}{80} + \cdots$ $4 + \frac{12}{5} + \frac{36}{25} + \frac{108}{125} + \frac{324}{625} + \cdots$ Sum of an infinite geometric series $S = \frac{a_1}{1 - r}$ |*r*|<1 ٠ • If |r| > 1, then no sum (∞) Find the sum $\sum_{i=1}^{\infty} 2(0.1)^{i-1}$ $2 + \frac{6}{4} + \frac{18}{16} + \frac{54}{64} + \cdots$

A pendulum that is released and swings freely travels 100 centimeters on the first swing. On each successive swing, the pendulum travels 96% of the distance of the previous swing. What is the total distance the pendulum travels?

Write 0.27272727... as a fraction.

Write 32.323232... as a fraction.

623 #1, 3, 5, 7, 9, 1 1, 13, 15, 17, 19, 21, 25, 27, 29, 31, 33, 35, 37, 39, 41 = 20