

Infinite Geometric Series

- 1) The sum of an infinite geometric series is $\frac{125 + 25\sqrt{6}}{19}$ and the first term is 5. Find the common ratio.

$$\text{common ratio} = \frac{\sqrt{6}}{5}$$

- 2) What is the first term of an infinite geometric series, if the sum of the series and the common ratio are 35 and 0.6 respectively?

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- 3) The first term of the series is $\frac{1}{2}$ and the common ratio is $\frac{1}{3}$. Find the sum of the series. The sum of the series is $-\frac{1}{2}$. Determine the first term of the series.

- 4) Determine the first term of an infinite geometric series, if the sum of the series and the common ratio are $\frac{1}{2}$ and $\frac{1}{3}$ respectively. The sum of the series and the common ratio are $\frac{1}{2}$ and $\frac{1}{3}$ respectively. Determine the first term of the series.

- 5) Find the common ratio of an infinite geometric series, if the sum and first term of the series are $\frac{133}{2}$ and 19 respectively.

$$\text{common ratio} = \frac{5}{7}$$