

10 Infinite series – Part 1 —Answers

Answers

Work through these after you have tried the questions yourself.

2.1 a sequence is a list of terms; a series is the sum of the terms.

2.2 $S = \frac{a}{1 - r}$.

2.3 $S = \frac{1}{1 - \frac{1}{3}} = \frac{1}{\frac{2}{3}} = \frac{3}{2}$.

2.4 $S = \frac{4}{1 - \frac{1}{2}} = \frac{4}{\frac{1}{2}} = 8$.

2.5 no – the ratio is 2, so $|r| \geq 1$ and the terms grow, so the sum diverges (grows without limit).