Practice worksheet | Sequences and series

Infinite geometric sums and convergence

Name: _____ Date: _____

6 questions | 13 marks

1. Find $12 + 3 + \frac{3}{4} + \cdots$ to infinity. [2 marks]

2. Find the infinite sum for $a = 5, r = -0.6$. [2 marks]

3. A geometric series starts at 8 and sums to 20. Find its ratio. [2 marks]

4. Use partial sums to explain why $1 - 1 + 1 - 1 + \cdots$ does not converge. [2 marks]

5. A ball falls 2 m and rebounds to half its preceding height each time. Find the ideal total vertical distance. [3 marks]

6. For $10 + 5 + 2.5 + \cdots$, find the tail after four terms. [2 marks]