

Geometric Sequences

- 1 The first term of a geometric progression is 24 and the second term is 18. Find the sum to infinity. [3]

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- 2 The first term of a geometric progression is 6 and the sum to infinity is 10. Find the common ratio. [3]

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- 3 A geometric progression u_1, u_2, u_3, \dots is defined by

$$u_1 = 5, \quad u_{n+1} = 0.6u_n.$$

- (i) Find u_4 . [2]
- (ii) Find the sum to infinity of the terms of the geometric progression. [2]
- 4 A geometric progression has first term 30 and common ratio 0.8. Find
- (i) the 20th term, giving your answer correct to 3 significant figures, [2]
- (ii) the sum of the first 20 terms, giving your answer correct to 3 significant figures, [2]
- (iii) the sum to infinity. [2]