

- 8 The n th term of a geometric series G is U_n and the sum of the first n terms of G is S_n

Given that $U_n = \frac{25}{4} \left(\frac{3}{5} \right)^n$

- (a) find the exact value of U_5

(1)

- (b) Show that $S_n = \sum_{r=1}^n \frac{A}{B} \left(\frac{3}{5} \right)^{r-1}$ where A and B are integers to be found.

(3)

The sum to infinity of G is S

- (c) Find the least value of n such that $S - S_n < 0.045$

(6)

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