7 A geometric series G has first term a and common ratio r

The sum of the first three terms of G is $\frac{61}{6}$

The sum to infinity of G is $\frac{125}{6}$

- (a) (i) Show that $r = \frac{4}{5}$
 - (ii) Find the value of a

(6)

The sum of the first n terms of G is S_n

Given that $S_n > 19.8$

(b) show that $n \lg \left(\frac{4}{5} \right) < \lg \left(\frac{31}{625} \right)$

(2)

(c) Hence find the least value of n

(2)

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Question 7 continued		



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	(Total for Question 7 is 10 marks)

