7 A geometric series G with common ratio r, has first term 16 and third term $\frac{2704}{625}$

(a) Find the two possible values of r

(2)

Given that $r > 0$

(b) find the sum to infinity of G

(2)

The sum to n terms of G is greater than 33

(c) Find, using logarithms, the least possible value of n
Show your working clearly.

(5)

Question 7 continued

(Total for Question 7 is 9 marks)