4 The nth term of a geometric series is t_n and the common ratio is r.

Given that $t_2 + t_5 = \frac{28}{81}$ and $t_2 - t_5 = \frac{76}{405}$

(a) (i) show that $r = \frac{2}{3}$

(ii) find the first term of the series.

(6)

(b) Find the sum to infinity of this geometric series.

(2)

Question 4 continued

(Total for Question 4 is 8 marks)