6 (a) Show that $\sum_{r=1}^{n}(4r-3) = n(2n-1)$

(3)

(b) Hence, or otherwise, find the least value of n such that $\sum_{r=1}^{n}(4r-3) > 1000$

(3)

Given that $S_n = n(2n-1)$, $t_n = (4n-3)$ and that $18 + 3t_{n+7} = S_{n+4}$

(c) find the value of n.

(4)

Question 6 continued

Question 6 continued

Question 6 continued

(Total for Question 6 is 10 marks)