4 (a) Show that $\sum_{r=1}^{n}(3r-4) = \frac{n}{2}(3n-5)$

(3)

(b) Hence, or otherwise, evaluate $\sum_{r=11}^{50}(3r-4)$

(2)

Given that $\sum_{r=1}^{n}(3r-4) = 186$

(c) find the value of n.

(3)

Question 4 continued

(Total for Question 4 is 8 marks)