4 The sum S_n of the first n terms of an arithmetic series is given by $S_n = 2n(10 - n)$

(a) Write down the first term of the series.

(1)

(b) Find the common difference of the series.

(2)

Given that $S_n > -50$

(c) (i)   write down an inequality satisfied by n,

(ii)   hence find the largest value of n for which $S_n > -50$

(4)

P 4 4 4 0 6 A 0 8 3 2

Question 4 continued

(Total for Question 4 is 7 marks)