5 The sum of the first term and the third term of a geometric series is 75

The sum of the second term and the third term is 45

(a) Find the two possible values of the common ratio of the series.

(5)

Given that the series is convergent with sum to infinity S,

(b) find the value of S.

(3)

Question 5 continued

(Total for Question 5 is 8 marks)