Answer all ELEVEN questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1   The *n*th term of a geometric series is $3e^{(1-2n)}$

Find the sum to infinity of this series.

Give your answer in the form $\dfrac{a e}{e^b - 1}$ where a and b are integers to be found.

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(Total for Question 1 is 5 marks)