

- 2** The common ratio of a geometric progression is  $r$ . The first term of the progression is  $(r^2 - 3r + 2)$  and the sum to infinity is  $S$ .

(i) Show that  $S = 2 - r$ . [2]

[illegible]

(ii) Find the set of possible values that  $S$  can take. [2]

[illegible]