1. Suppose there is an urn that contains r red balls and b black balls. A ball is drawn at random and its colour noted. It is replaced with c > 0 balls of the same colour. The procedure is then repeated. For  $j = 1, 2, \ldots$ , let  $R_j$  be the event that the j-th ball drawn is red. What is  $P(R_2)$ ?