1. You have two identical 10-sided dice numbered 1,2,...,10, with the strange property that the probability of rolling \( n \) is proportional to \( n \).

   (a) What is the probability of rolling an \( n \)? (Express your answer as some formula involving \( n \).)

   (b) You roll these two dice at the same time. What is the probability that the sum of the two rolls is at least 18? (You can leave your answer as a fraction.)

   (c) Is the probability of rolling at least one 9 independent of the probability that the sum of the two rolls is at least 18? Justify your answer.