1. There are three boxes, each containing balls numbered from 0 to 9. One ball is taken out of each box. What is the probability that:
   a) three ones are drawn;
   b) three equal numbers are drawn?

2. In the city where the Mad Scientist lives, phone numbers consist of 7 digits. The scientist easily remembers a phone number if it is a palindrome, meaning it reads the same backwards as forwards. For example, the number 4435344 is easy for the scientist to remember because it is a palindrome. However, the number 3723627 is not a palindrome, so the scientist has difficulty remembering it. Find the probability that the phone number of a new random friend will be easy for the scientist to remember.

3. Robert is doing a French language assignment. The assignment contains 10 French expressions and their translations into English in random order. It is necessary to establish the correct correspondences between the expressions and their translations. 1 point is awarded for each correctly established correspondence. Thus, it is possible to receive from 0 to 10 points. Robert doesn't know anything, so he chooses options at random. Find the probability that he will receive exactly 9 points.

4. A sports club has 30 members, and four people need to be selected from them to participate in a 1000-meter race. In how many ways can this be done?

5. In how many ways can a team of four people be formed to participate in a relay race consisting of 100m, 200m, 300m, and 400m legs?