1. Montaigne eats breakfast, lunch, and dinner every day of the week. He eats 11 of these meals at home; the other 10 he has at La Coupole.
   (a) How many possible dining schedules involve at most one Saturday meal at La Coupole?

   (b) How many possible dining schedules involve no breakfasts at home?

2. Six Capulets and three Montagues are having a debate.
   (a) In how many ways can they be put in a line if we view all people within a family as indistinguishable?

   (b) In how many ways can they be put in a circle if people are distinguishable?

   (c) In how many ways can they be put in a circle if people within a family are indistinguishable?

3. Your studio has 30 people divided into ten squads of 3. You make teams of 5 people at random from the 30 people.
   (a) How many possible teams are there consisting where everyone comes from a different squad?

   (b) How many possible teams are there with exactly two people from the same squad?

   (c) How many possible teams are there with two pairs of people who come from the same squad?

   (d) How many possible teams are there with members drawn from exactly three squads?

4. A committee is to be selected from \( n \) people, and one of the committee members is to be selected as chair of the committee.
   (a) How many possible selections are there for a committee of size \( k \) and its chair?

   (b) How many possible selections are there for the committee and chair if we consider every committee size from 1 to \( n \)?