

Exercise 3.B

1. A multiple-choice test contains 10 questions. There are four possible answers for each question. In how many ways can a student answer the questions on the test if the student can leave answers blank?
2. How many 5-element DNA sequences start with T and end with G? (hint: DNA sequences could contain A, T, C, or G)
3. How many strings of four decimal digits end with an even digit?
4. A bowl contains 10 red balls and 10 blue balls. A woman selects balls at random without looking at them. How many balls must she select to be sure of having at least three blue balls?
5. How many strings of six lowercase letters from the English alphabet contain the letters a and b?
6. Suppose that a department contains 10 men and 15 women. How many ways are there to form a committee with six members if it must have more women than men?