Instructions

Complete the following exercises related to Venn diagrams, probability, two-way tables, two-step experiments, and data investigation. Answer each question in the space provided.

1. Venn Diagrams

Draw a Venn diagram to represent the following information:

• In a class, 15 students play basketball, 10 students play soccer, and 5 students play both sports.

Your Venn Diagram:

2. Probability

If you roll a fair six-sided die, what is the probability of rolling:

- a. An even number?
- b. A number greater than 4?

3. Two-Way Tables

Complete the following two-way table based on the data collected from a survey of 30 students about their favorite fruit:

Favorite Fruit	Likes Apples	Likes Oranges	Total
Male			
Female			
Total			30

4. Two-Step Experiments

A box contains 4 red balls, 3 blue balls, and 2 green balls. You select one ball, record its color, and then select another ball without replacing the first. What is the probability of:

- a. Choosing a red ball first and then a blue ball?
- b. Choosing a green ball first and then a red ball?

5. Investigating Data

Based on the data you collected from your two-way table, answer the following questions:

- a. What is the most popular fruit among the surveyed students?
- b. How many students prefer apples over oranges?

Once you have completed all sections, review your answers and ensure clarity and accuracy. Happy working!