STANDARD VII: The student will be able to solve problems involving a variety of algebraic and geometric concepts.

OBJECTIVE

6. Determine probabilities.

ELIGIBLE CONTENT

- Both AND and OR situations may be included.

SAMPLE ITEMS

1 A committee consists of 6 students and 4 teachers. If two committee members are selected at random, what is the probability that the first member selected is a student and the second member is a teacher?

A $\frac{1}{5}$

B $\frac{4}{15}$

C $\frac{1}{24}$

D $\frac{6}{25}$

2 In a group of 10 students, 2 were born in April, 3 in May, 3 in July, and 2 in October. If a student is chosen at random, what is the probability that the student was born in April or October?

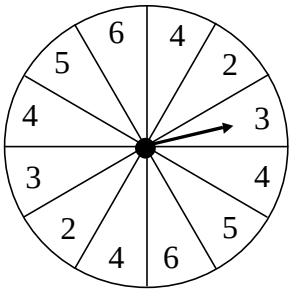
A $\frac{1}{5}$

B $\frac{2}{5}$

C $\frac{3}{5}$

D $\frac{4}{5}$

3 What is the probability of spinning a 4 on the spinner below?



A $\frac{1}{12}$

B $\frac{1}{4}$

C $\frac{1}{3}$

D $\frac{1}{2}$

4 A bag contains 30 balls—8 white, 7 red, 9 green, and 6 blue. If one ball is drawn at random, what is the probability that it is white?

A $\frac{1}{30}$

B $\frac{4}{15}$

C $\frac{1}{4}$

D $\frac{2}{15}$

5 Ten colored marbles are placed in a box—4 red, 2 yellow, and 4 green. In a random drawing, two marbles are chosen without replacement. What is the probability that the first marble selected will be red and the second marble will be green?

A $\frac{2}{15}$

B $\frac{3}{25}$

C $\frac{4}{25}$

D $\frac{8}{45}$

6 The table shows the distribution of positions on a soccer team. To select the game captain, each player' s name is written on a ball.

SOCCER TEAM POSITIONS

Position	Number of Players
Goalie	1
Center forward	1
Wing	2
Halfback	3
Fullback	4
Total Players	11

If one ball is drawn at random, what is the probability of selecting a goalie or a wing?

A $\frac{2}{11}$

B $\frac{3}{11}$

C $\frac{5}{11}$

D $\frac{6}{11}$