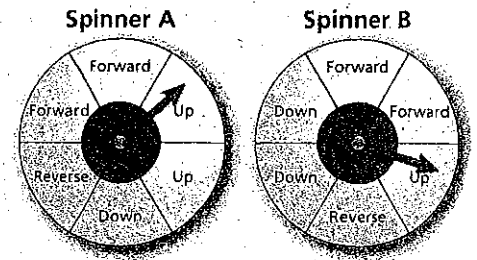


- VOCABULARY** Explain how to find the probability of an event.
- REASONING** Can the probability of an event be 1.5? Explain.
- OPEN-ENDED** Give a real-life example of an event that is impossible. Give a real-life example of an event that is certain.

You are playing a game using the spinners shown.

- You want to move down. On which spinner are you more likely to spin "Down"? Explain.
- You want to move forward. Which spinner would you spin? Explain.



Describe the likelihood of the event given its probability.

- Your soccer team wins $\frac{3}{4}$ of the time.
- There is a 0% chance that you will grow 12 more feet.
- The probability that the sun rises tomorrow is 1.
- It rains on $\frac{1}{5}$ of the days in July.
- VIOLIN** You have a 50% chance of playing the correct note on a violin. Describe the likelihood of playing the correct note.

You randomly choose one shirt
Find the probability of the event.

- Choosing a red shirt
- Choosing a green shirt
- Not choosing a white shirt
- Not choosing a black shirt
- Choosing an orange shirt

1 red
2 green
4 blue
1 white
2 black

17. **CONTEST** The rules of a contest say that there is a 5% chance of winning a prize. Four hundred people enter the contest. Predict how many people will win a prize.

18. **RUBBER DUCKS** At a carnival, the probability that you choose a winning rubber duck from 25 ducks is 0.24.

- How many are *not* winning ducks?
- Describe the likelihood of *not* choosing a winning duck.

19. **DODECAHEDRON** A dodecahedron has twelve sides numbered 1 through 12. Find the probability and describe the likelihood of each event.

- Rolling a number less than 9
- Rolling a multiple of 3
- Rolling a number greater than 6

A Punnett square is a grid used to show possible gene combinations for the offspring of two parents. In the Punnett square shown, a boy is represented by XY. A girl is represented by XX.

		Mother's Genes	
		X	X
Father's Genes	X	XX	
	Y		

20. Complete the Punnett square.

21. Explain why the probability of two parents having a boy or having a girl is equally likely.

22. **Critical Thinking** Two parents each have the gene combination Cs. The gene C is for curly hair. The gene s is for straight hair.

a. Make a Punnett square for the two parents. When all outcomes are equally likely, what is the probability of a child having the gene combination CC?

b. Any gene combination that includes a C results in curly hair. When all outcomes are equally likely, what is the probability of a child having curly hair?