# Lesson 1 Reteach

Probability of Simple Events

When tossing a coin, there are two possible **outcomes**, heads and tails. Suppose you are looking for heads. If the coin lands on heads, this would be a favorable outcome. The chance that some event will happen (in this case, getting heads) is called **probability**. You can use a ratio to determine probability. The probability of an event is a number from 0 to 1, including 0 and 1. The closer a probability is to 1, the more likely it is to happen.
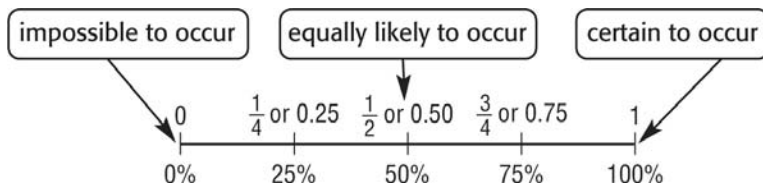
Example 1
There are four equally likely outcomes on the spinner.
Determine the probability of spinning green or blue.
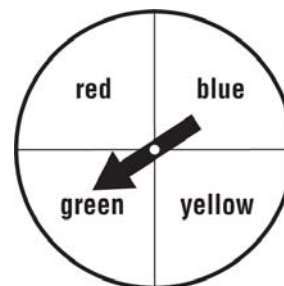
$$P(\text{green or blue}) = \frac{\text{number of favorable outcomes}}{\text{number of total outcomes}}$$

$$= \frac{2}{4} \text{ or } \frac{1}{2}$$

The probability of landing on green or blue is $\frac{1}{2}$, 0.50, or 50%.

Complementary events are two events in which either one or the other must happen, but both cannot happen at the same time. The sum of the probabilities of complementary events is 1.

Example 2
There is a 25% chance that Sam will win a prize. What is the probability
that Sam will not win a prize?

$$P(\text{win}) + P(\text{not win}) = 1$$
$$0.25 + P(\text{not win}) = 1$$
$$\underline{-0.25 \qquad\qquad = -0.25}$$
$$P(\text{not win}) = 0.75$$

So, the probability that Sam won't win a prize is 0.75, 75%, or $\frac{3}{4}$.

Exercises
 1. There is a 90% chance that it will rain. What is the probability that it will not rain?

One pen is chosen without looking from a bag that has 3 blue pens, 6 red, and 3 green. Determine the probability of each event. Express each answer as a fraction, a decimal, and a percent.

 2. $P(\text{green})$　　　　　　　　　　 **3.** $P(\text{blue or red})$　　　　　　　　　　 **4.** $P(\textit{not} \text{ red})$