Lesson 4-3

Example 1

In an experiment, a coin is tossed and a spinner with 6 equal sections colored red, green, blue, white, yellow, and purple is spun. How many possible outcomes are there?

Solution

The sample space can be shown as a set of ordered pairs. For the coin, let *H* represent heads and *T* represent tails. For the spinner, write the color of each space.

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(H, red)	(H, green)	(H, blue)	(H, white)	(H, yellow)	(H, purple)
(T, red)	(T, green)	(T, blue)	(T, white)	(T, yellow)	(T, purple)

There are 12 possible outcomes.

Example 2

RECREATION A cycling store sells bikes in three different speeds: 5-speed, 10-speed, and 15-speed. They also have three different frame sizes: small, medium, and large. How many different types of bikes are offered by the store? Use a tree diagram to solve the problem.

Solution

Use the tree diagram to count the total number of combinations.

The cycling store sells nine different types of bikes.
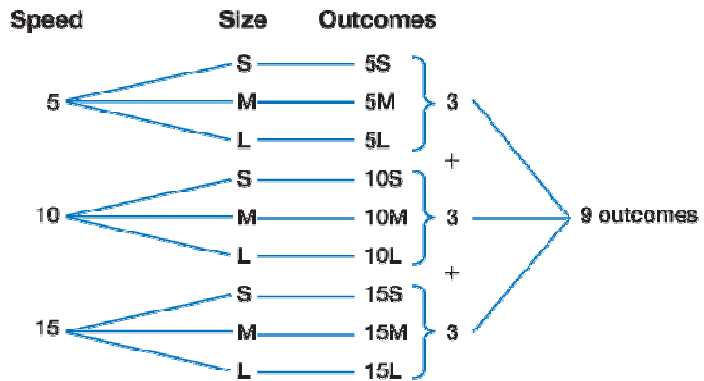
Example 3

RESTAURANT A diner has a choice of 3 different salads, 6 different sandwiches, and 4 different kinds of soup. How many different three-course meals are possible?

Solution

Multiply the number of choices for each course of the meal.

salads	·	sandwiches	·	soups	=	possible meals
3	·	6	·	4	=	72

The diner has 72 different three-course meals.

Example 4

A spinner with eight equal sections labeled from 1 through 8 is spun. Find *P*(prime number greater than 2).

Solution

There are eight possible outcomes when the spinner is spun: 1, 2, 3, 4, 5, 6, 7, 8.
There are four prime numbers: 2, 3, 5, 7.
Only three of the prime numbers are greater than 2: 3, 5, 7.
So there are three favorable outcomes.

$$P(\text{prime number greater than 2}) = \frac{3}{8}$$

So the probability of spinning a prime number greater than 2 is $\frac{3}{8}$.