Name _____ Date _____

4-8 Simple Events (pages 165–168)

An **event** is a specific outcome. Outcomes occur at **random** if each outcome is equally likely to occur.

Finding Probability	The **probability** of an event is the ratio of the number of ways an event can occur to the number of possible outcomes. $P(\text{event}) = \frac{\text{number of ways an event occurs}}{\text{number of possible outcomes}}$

EXAMPLE

A certain spinner is equally likely to stop on each of its regions labeled 5, 10, 15, 20, and 25. Find the probability that the spinner will stop on an even number.

$P(\text{even number}) = \frac{\text{number of ways an even number occurs}}{\text{number of possible outcomes}}$

Since 2 of the outcomes are even numbers (10 and 20), and there are 5 possible outcomes, P(even number) $= \frac{2}{5}$.

Try These Together

1. What is the probability that a month chosen at random will have 31 days?
HINT: How many months out of 12 have 31 days?

2. What is the probability that a day of the week chosen at random has a name that starts with S?
HINT: How many days start with S?

PRACTICE

A number cube for a game has six sides numbered 1–6. Find the probability that the number cube will land on each of the following when it is tossed.

3. a 2

4. a multiple of 2

5. an odd number

6. a number greater than 5

There are 16 colored tennis balls in a bag. Three are blue, 5 are yellow, 4 are green, and 4 are orange. If you reach in the bag and draw one ball at random, what is the probability that you will draw each of the following?

7. a green ball

8. a blue ball

9. **Standardized Test Practice** Ophelia is eating colored candies. There are 80 candies in all and 16 of them are red. What is the probability that she will randomly choose a red candy? Express the fraction in simplest form.

A $\frac{2}{10}$ **B** $\frac{1}{5}$ **C** $\frac{1}{10}$ **D** $\frac{16}{80}$

Answers: 1. $\frac{7}{12}$ 2. $\frac{2}{7}$ 3. $\frac{1}{6}$ 4. $\frac{1}{2}$ 5. $\frac{1}{2}$ 6. $\frac{1}{6}$ 7. $\frac{1}{4}$ 8. $\frac{3}{16}$ 9. B