

## Self-Check 24

### Probability Basics

- Parent rabbits can produce pink or brown eyes, white, black or spotted fur and long, medium or short hair. How many types of offspring are possible?
  - 3
  - 6
  - 8
  - 18
- What is the probability of getting an offspring with medium hair?
  - $\frac{1}{3}$
  - $\frac{1}{6}$
  - $\frac{1}{8}$
  - $\frac{1}{18}$
- What is the probability of producing a brown-eyed offspring?
  - 1
  - $\frac{1}{2}$
  - $\frac{1}{3}$
  - $\frac{2}{1}$
- If a fair coin is flipped three times, what is the probability of getting two heads?
  - $\frac{1}{8}$
  - $\frac{1}{4}$
  - $\frac{3}{8}$
  - $\frac{2}{3}$

## Solutions to Self-Check for Tutorial 24

### Probability Basics

1. Parent rabbits can produce pink or brown eyes, white, black or spotted fur and long, medium or short hair. How many types of offspring are possible?

There are  $2 \times 3 \times 3 = 18$  possible outcomes.

**D. 18**

3. What is the probability of producing a brown-eyed offspring?

There are  $1 \times 3 \times 3 = 9$  possible outcomes with brown eyes. The probability is 9 out of 18 or  $\frac{1}{2}$ .

**B.  $\frac{1}{2}$**

2. What is the probability of getting an offspring with medium hair?

There are  $2 \times 3 \times 1 = 6$  outcomes with medium fur. The probability is 6 out of 18 or  $\frac{1}{3}$ .

**A.  $\frac{1}{3}$**

4. If a fair coin is flipped three times, what is the probability of getting two heads?

There are  $2 \times 2 \times 2 = 8$  possible outcomes. Using a tree diagram, there are 3 out of 8 possible outcomes with two heads, so  $\frac{3}{8}$  is the probability of two heads on three flips.

**C.  $\frac{3}{8}$**