

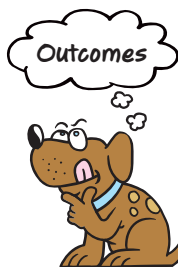
## REVIEW: Sample Space

Name \_\_\_\_\_

### Key Concept and Vocabulary

The set of all outcomes of an experiment is called the **sample space**.

The sum of the probabilities of all outcomes in a sample space is 1.



### Visual Model

A hat contains 3 tiles with the letters P, R, and O.



*Experiment:* Draw a tile.

*Sample Space:* 

*Probabilities:*  $\frac{1}{3}$     $\frac{1}{3}$     $\frac{1}{3}$

*Sum of Probabilities:*  $\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1$

### Skill Examples

1. You flip a coin. The sample space of the experiment is Heads (H), Tails (T).
2. You roll a number cube. The sample space of the experiment is 1, 2, 3, 4, 5, 6.
3. You flip a coin and roll a number cube. The sample space of the experiment is H1, H2, H3, H4, H5, H6, T1, T2, T3, T4, T5, T6.

### Application Example

4. A referee flips a coin twice. Find the sample space. Show that the sum of the probabilities of all outcomes is 1.

∴ The sample space is HH, HT, TH, TT.

The probability of each outcome is  $\frac{1}{4}$ .

$$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = 1$$

## PRACTICE MAKES PURR-FECT™



Check your answers at [BigIdeasMath.com](http://BigIdeasMath.com).

Find the sample space of the experiment.

5. Drawing a marble



\_\_\_\_\_

7. Rolling a number cube twice

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\_\_\_\_\_  
\_\_\_\_\_

9. **BILLIARDS** The three balls shown are left on a billiards table. You choose a ball at random, set it aside, and then choose another ball. Find the sample space. Show that the sum of the probabilities of all outcomes is 1.

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\_\_\_\_\_

6. Rolling a cube with letters of the word *sample*



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8. Flipping a coin and rolling the cube in Exercise 6

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