

**CHAPTER**  
**8**

**At-Home Practice**

**Using Probability**

**Find the probability of each set of disjoint events.**

1. choosing a turkey sandwich or a ham sandwich from a box that contains only 7 turkey sandwiches, 5 grilled chicken sandwiches, and 9 ham sandwiches

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2. rolling a 1 or rolling a number greater than 4 on a number cube

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**Find the probability of each set of independent events.**

3. There are 9 players that start a baseball game for each team. If you randomly choose a player from each team, what is the probability that you choose both catchers?

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4. Numbers from 1 to 20 are on a dartboard. You throw two darts and hit the board both times. What is the probability that you hit an even number on the first throw and a number greater than 15 on the second throw?

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**Use probability to make predictions.**

5. You roll a fair number cube 50 times. How many times would you expect to roll a number that is a multiple of 2?

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6. A survey of 150 people indicated that 45 of those surveyed eat five fruits or vegetables each day. Out of 1,250 people, predict how many people eat five fruits or vegetables each day.

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**Answers:** 1.  $\frac{21}{7} + \frac{21}{9} = \frac{21}{16} \cdot 2 = \frac{21}{8} + \frac{6}{2} = \frac{6}{3} = \frac{2}{1} \cdot 3 = \frac{9}{1} \cdot \frac{9}{1} = \frac{81}{1} \cdot 4 = \frac{20}{10} \cdot \frac{20}{5} = \frac{8}{1} \cdot 5 = 25$  times 6. 375 people

**CHAPTER**

**Family Fun**

**8**

**Four in a Row Probability**

**Directions**

- Cut out and shuffle the problem cards below.
- Each player should create a 4-by-4 grid as shown. Have each player write the words or fractions from the box below in any order in each one of the squares in the grid.
- Taking turns, each player will draw a card and find the probability that the event on the card will occur. If the player matches the correct probability on the grid, he or she will color in the corresponding square.
- The first player to color in four squares in a row, column, or diagonal wins the game.


impossible	unlikely	as likely as not	certain	$\frac{1}{2}$	$\frac{1}{4}$
$\frac{1}{6}$	$\frac{12}{19}$	$\frac{5}{26}$	$\frac{3}{10}$	$\frac{1}{123}$	$\frac{7}{10}$

<b>Choosing a red marble from a bag that has 4 blue, 3 green, and 3 red marbles</b>	<b>Winning a raffle if you bought one ticket and 123 tickets were sold</b>	<b>Being chosen out of four children to take out the garbage</b>	<b>Getting a 7 when rolling a die</b>
<b>Getting a head when flipping a coin (fraction)</b>	<b>Snowing in Miami, Florida</b>	<b>Rolling an even number on a die (words)</b>	<b>Picking a vowel out of a hat that contains each letter of the alphabet</b>
<b>Not choosing a red marble from a bag that has 4 blue, 3 green, and 3 red marbles</b>	<b>Choosing a boy if there are 7 girls in a class of 19 students</b>	<b>Getting a 3 when rolling a die</b>	<b>Passing a test if you get all the answers correct</b>

**Answers:**  $\frac{3}{10}$ ,  $\frac{1}{123}$ ,  $\frac{4}{1}$ , impossible,  $\frac{2}{1}$ , unlikely, as likely as not,  $\frac{5}{26}$ ,  $\frac{10}{7}$ ,  $\frac{10}{12}$ ,  $\frac{6}{1}$ , certain