Name Class Date

Untitled-1 copy**In-Class Practice**

15-1

Experimental and Theoretical Probability

You roll a standard number cube 8 times. The results are shown below.

5, 1, 2, 4, 6, 3, 5, 5

**Find the experimental probability of each outcome.**

**1.** *P*(rolling a 5)

Number of 5s rolled:

Total number of rolls:

Experimental probability: ******

**2.** *P*(rolling a 6)

Experimental probability: 

**3.** *P*(rolling an even number)

**4.** What is the experimental probability of rolling a multiple of 3 on a standard  
number cube? For 60 rolls of the number cube, predict the number of rolls  
that will result in a multiple of 3.

**Find the theoretical probability of each outcome.**

|  |  |
| --- | --- |
| **5.** *P*(rolling a 5) | **6.** *P*(rolling a 6) |

|  |  |
| --- | --- |
| **7.** *P*(rolling an even number) | **8.** *P*(rolling a multiple of 3) |

**A bag contains 1 red marble, 3 green marbles, 1 blue marble, and 1 yellow  
marble. Suppose one marble is picked at random. Find each probability.**

|  |  |
| --- | --- |
| **9.** *P*(blue) | **10.** *P*(not green) |

|  |  |
| --- | --- |
| **11.** *P*(not red) | **12.** *P*(not yellow) |

**Pearson Texas Geometry**

Name Class Date

Untitled-1 copy**In-Class Practice** (continued)

15-1

Experimental and Theoretical Probability

**13.** A spinner has 4 equal sections. After 12 spins, the spinner landed on  
section A 4 times, section B 5 times, section C 2 times, and section D  
1 time.

**a.** What is the experimental probability of the spinner stopping  
on section A?

**b.** What is the theoretical probability of the spinner stopping  
on section A?

**14. Reasoning** If the probability of an event occurring is , what is the  
probability of its complement?

**Two standard number cubes are rolled. Find each probability.**

|  |  |  |
| --- | --- | --- |
| **15.** *P*(a sum equal to 3) | **16.** *P*(a sum not equal to 3) | **17.** *P*(a sum equal to 12) |

**18. Writing** An event has a probability of 1. What does this tell you about the  
event? Explain.

**19. Error Analysis** You and a friend flip a coin 10 times. The coin lands on heads  
7 times. Your friend says that the theoretical probability of getting heads is  
. What error did your friend make? What is the correct value for theoretical  
probability? Explain.

**Pearson Texas Geometry**