Name _____ Date _____ Class _____

Additional Practice

1. Shawon has a spinner that is divided into four regions. He spins the spinner several times and records his results in a table.

| Region	Number of Times Spinner Lands in Region
1	9
2	4
3	12
4	11

   a. Based on Shawon's results, what is the probability of the spinner landing on region 1?

   b. What is the probability of the spinner landing on region 2?

   c. What is the probability of the spinner landing on region 3?

   d. What is the probability of the spinner landing on region 4?

   e. Are the probabilities you found in parts (a)–(d) theoretical probabilities or experimental probabilities?

   f. Make a drawing of what Shawon's spinner might look like.

Additional Practice *(continued)*

2. Irene randomly tosses a cube onto the grid below.
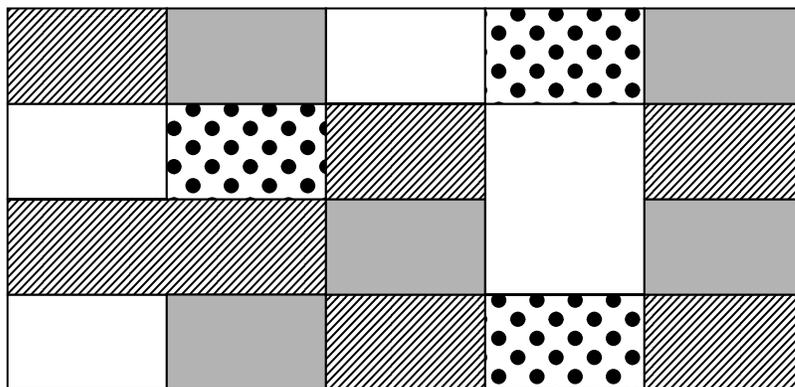

   a. What is the probability of the cube landing on a striped rectangle? Express your answer as a percent.

   b. What is the probability of the cube landing on a white rectangle? Express your answer as a percent.

   c. What is the probability of the cube landing on a gray rectangle? Express your answer as a percent.

   d. What is the probability of the cube landing on a dotted rectangle? Express your answer as a percent.

   e. What is the probability of the cube not landing on a white rectangle? Express your answer as a percent.

   f. What is the probability of the cube not landing on a striped rectangle? Express your answer as a percent.

   g. Irene proposed the following game: If the cube lands on a striped square or a dotted square, Irene wins; if the cube lands on a white square or a gray square, Irene's sister wins. Is this a fair game? Explain your reasoning.

Additional Practice *(continued)*

3. Zark randomly selects one of the segments in the diagram leading from point A. He follows that segment until he reaches another lettered point. Then, he randomly selects one of the segments leading from that point and follows it to the next lettered point. He continues this process until he reaches a dead end. In parts (a)–(e) below, we use a series of letters to represent a path. For example, the path *AEHI* is the path from *A* to *E* to *H* to *I*.
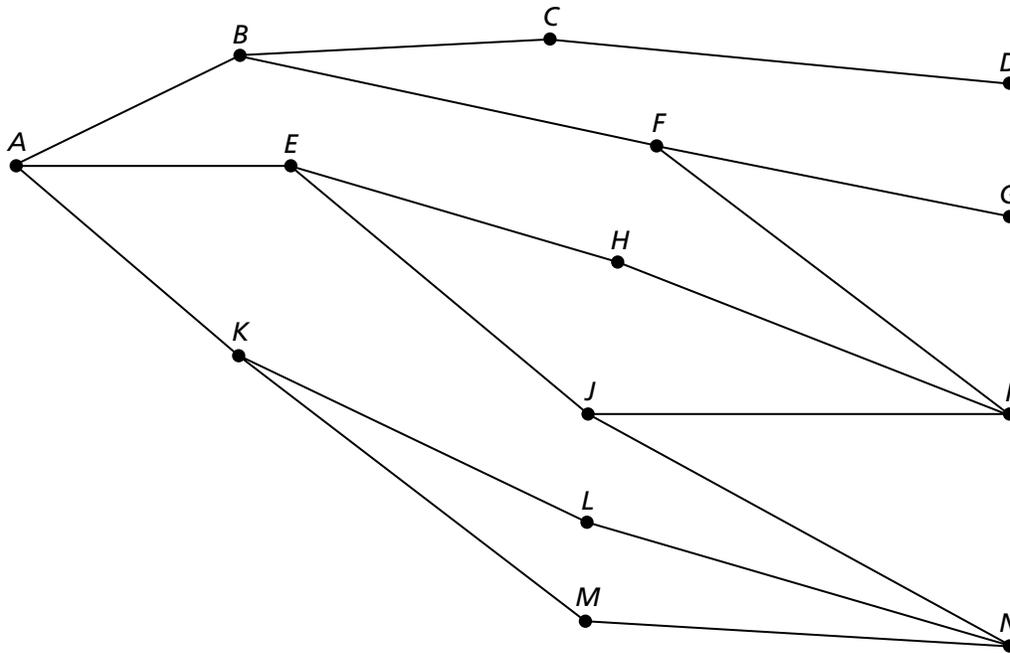
a. What is the probability that Zark followed path *AEJN*?

b. What is the probability that he followed path *ABCD*?

c. What is the probability that he followed path *ABFI*?

d. Are paths *AKLN* and *AKMN* equally likely to be selected? Explain your reasoning.

e. If Zark repeats this process 50 times, how many times would you expect him to follow path *AEJI*? Explain.
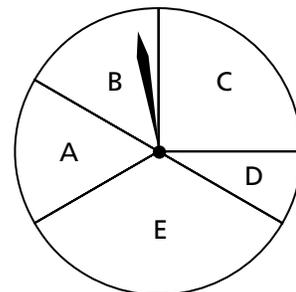
Name _____ Date _____ Class _____

Additional Practice *(continued)*

4. a. If a letter is randomly selected from the letters A, B, C, D, and E, what is the probability that the letter will be B? Explain.

   b. If a letter is selected by spinning the spinner at the right, what is the probability that the letter will be B? Explain.

   c. Are your answers to parts (a) and (b) the same? Explain.

   d. If the spinner is spun once, what is the probability that it will not land in region C? Explain.

   e. If the spinner is spun once, what is the probability that it will land in region D? Explain.

   f. If the spinner is spun 100 times, how many times would you expect it to land in region E? Explain.

5. The faces of one six-sided number cube are labeled 1, 1, 1, 2, 2, 3, and the faces of a second cube are labeled 0, 1, 2, 2, 2, 3. The two cubes are rolled, and the results are added.

   a. What is the probability of rolling a sum of 1?

   b. What is the probability of rolling a sum of 6?

   c. What is the probability of rolling a sum of 4?

   d. What is the probability of rolling a sum that is not 1 or 6? Explain.