LESSON 11-3

Practice A

Make a List to Find Sample Spaces

1. Lindsay flips a coin and rolls a 1–6 number cube at the same time. What are the possible outcomes?

   (H, 1), (H, 2), (H, 3), (H, 4), (H, 5), (H, 6),
   (T, 1), (T, 2), (T, 3), (T, 4), (T, 5), (T, 6)

2. Jordan has a choice of wheat bread or rye bread and a choice of turkey, ham, or tuna for lunch. What are all the possible choices of sandwiches he can have?

   turkey on wheat, turkey on rye, ham on wheat,
   ham on rye, tuna on wheat, tuna on rye

3. Marisol has to decide whether to study Italian, French, or Spanish, and whether to take golf, tennis, or archery in gym class. What are the possible choices that Marisol has?

   Italian and golf, French and golf, Spanish and golf, Italian and tennis,
   French and tennis, Spanish and tennis, Italian and archery,
   French and archery, Spanish and archery

Choose the letter for the best answer.

4. Chad and Victoria are playing a game with a quarter and a spinner divided into sixths, numbered 1–6. Each player spins the spinner and tosses the coin. How many outcomes are possible in the game?
   A 2 **C** 10
   B 8 **(D)** 12

5. For a snack, Sophie can choose milk, apple juice, orange juice, or punch. To go with her drink, she can choose a chocolate cupcake, oatmeal cookie, or crackers. How large is the sample space?
   (F) 12 **H** 4
   G 7 **J** 3

6. Marva has a spinner divided into fourths and a 1–6 number cube. She spins the spinner and rolls the number cube. How many outcomes are possible in the game?
   A 4 **C** 10
   B 6 **(D)** 24

7. Larry has a choice of vanilla, chocolate, or strawberry ice cream. The choices of toppings are nuts, sprinkles, or coconut. How many one-topping sundaes can he make?
   F 3 **(H)** 9
   G 6 **J** 12

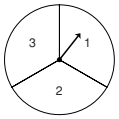
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LESSON 11-3

Practice B

Make a List to Find Sample Spaces

1. Marcus spins the spinner at the right and flips a dime at the same time. What are the possible outcomes? How many outcomes are in the sample space?

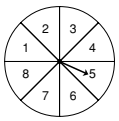
   

   (1, H), (2, H), (3, H), (1, T), (2, T),
   (3, T); 6 possible outcomes

2. For lunch, Britney has a choice of a hot dog, a hamburger, or pizza and a choice of an apple, a pear, or grapes. What are all the possible choices of lunch she can have? How many outcomes are in the sample space?

   hot dog with an apple, hot dog with a pear, hot dog with grapes,
   hamburger with an apple, hamburger with a pear,
   hamburger with grapes, pizza with an apple, pizza with a pear,
   pizza with grapes; 9 possible outcomes

3. Susan and Ryan are playing a game that involves spinning the spinner at the right and flipping a penny. How many outcomes are possible in the game?

   16 outcomes

4. An Italian restaurant offers small, medium, and large calzones. The choices of fillings are cheese, sausage, spinach, or vegetable. How many different calzones can you order?

   12 different calzones

5. There are 5 ways to go from Town X to Town Y. There are 3 ways to go from Town Y to Town Z. How many different ways are there to go from Town X to Town Z, passing through Town Y?

   15 ways

6. Rasheed has tan pants, black pants, gray pants, and blue pants. He has a brown sweater and a white sweater. How many different ways can he wear a sweater and pants together?

   8 ways

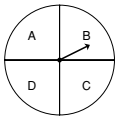
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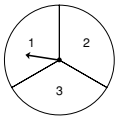
LESSON 11-3

Practice C

Make a List to Find Sample Spaces

1. Joanna spins the spinners at the right at the same time. What are the possible outcomes? How many outcomes are in the sample space?

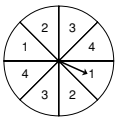
   

   (A, 1), (A, 2), (A, 3), (B, 1),
   (B, 2), (B, 3), (C, 1), (C, 2),
   (C, 3), (D, 1), (D, 2), (D, 3);
   12 possible outcomes

2. For breakfast, Armando has a choice of pancakes, eggs, or cereal and a choice of milk, hot cocoa, or juice. What are all the possible choices of breakfast he can have? How many outcomes are in the sample space?

   pancakes and milk, pancakes and hot cocoa, pancakes and juice,
   eggs and milk, eggs and hot cocoa, eggs and juice, cereal and milk,
   cereal and hot cocoa, cereal and juice; 9 possible outcomes

3. Shannon and Tyler are playing a game that involves spinning the spinner shown at the right and tossing a 1–6 number cube. How many outcomes are possible in the game?

   24 outcomes

4. If you flip a penny, toss a 1–6 number cube, and flip a quarter, how many outcomes are possible?

   24 outcomes

5. A Chinese restaurant has a special on Friday nights. For $20, you can choose one dish from 6 choices in column A and one dish from 5 choices in Column B. In addition, you can choose egg drop or wonton soup. How many different specials can you order?

   60 specials

6. Lisa has a beige skirt, a black skirt, and a denim skirt. She has a red sweater and a white sweater, and she has a white blouse, a blue blouse, and a green blouse. How many different ways can she wear a skirt, sweater, and blouse together?

   18 ways

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LESSON 11-3

Reteach

Make a List to Find Sample Spaces

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

A coin is tossed, and a number cube is rolled. What are all the possible outcomes? How many outcomes are in the sample space? There are two ways to show the sample space for an experiment. You can make a list, or you can make a tree diagram.



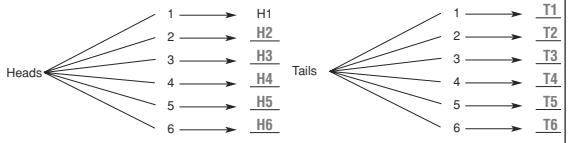


Make a list.

1. The possible outcomes for tossing a coin are heads (H) and tails (T).
2. The possible outcomes for rolling a number cube are 1, 2, 3, 4, 5, and 6
3. The sample space is (H, 1), (H, 2), (H, 3), (H, 4), (H, 5), (H, 6), (T, 1), (T, 2), (T, 3), (T, 4), (T, 5), (T, 6). There are 12 possible outcomes in the sample space.

Make a tree diagram.

4.



You can also find the number of possible outcomes by using the Fundamental Counting Principle.

Multiply the possible outcomes of each event.

5. flipping the coin: 2 outcomes; rolling the number cube: 6 outcomes

   2 • 6 = 12 possible outcomes

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