The **average** is the sum of the numbers in a set divided by the total number of items in that set. For example, the chart below shows the ages of a group of students. The sum of their ages is forty, and there are four students. You can find the average age in the group by dividing the sum of the ages by the number of students in the group:

$40 \div 4 = 10$.

Students' Ages

Student	Age
Steve	6
Amy	12
Clare	8
Brian	14

Carl is going to buy a key chain for his dad. The store sells five different key chains. What is the average price of a key chain at the store?

Key Chains

Key Chain	Price
A	$3
B	$6
C	$4
D	$12
E	$10

There are five key chains and the sum of the prices is $35.
$35 \div 5 = \$7$
The average price of a key chain at the store is **$7.**

Remember:

The average is the sum of the numbers in a set divided by the total number of items in that set.

1. **Robin won a chance to pick from the bag. What is the probability that she will pick a ball with a rainbow design?**

   Ⓐ $\frac{1}{2}$

   This is not correct. There are 20 balls in the bag and 2 of them have rainbow designs. The probability of picking a ball with a rainbow design is $\frac{2}{20}$, not $\frac{1}{2}$.

   Ⓑ $\frac{8}{20}$

   This is not correct. There are 20 balls in the bag and 2 of them have rainbow designs. The probability of picking a ball with a rainbow design is $\frac{2}{20}$, not $\frac{8}{20}$.

   Ⓒ $\frac{2}{10}$

   This is not correct. There are 20 balls in the bag and 2 of them have rainbow designs. The probability of picking a ball with a rainbow design is $\frac{2}{20}$, not $\frac{2}{10}$.

   ● $\frac{2}{20}$

   This is correct. There are 20 balls in the bag and 2 of them have rainbow designs. The probability of picking a ball with a rainbow design is $\frac{2}{20}$.

2. **What is the average number of balls with each design?**

   Ⓐ 20 balls

   This is not correct. There are 20 balls in the bag and 4 different designs.

   $20 \div 4 = 5$, not 20.

   Ⓑ 12 balls

   This is not correct. There are 20 balls in the bag and 4 different designs.

   $20 \div 4 = 5$, not 12.

   ● 5 balls

   This is correct. There are 20 balls in the bag and 4 different designs.

   $20 \div 4 = 5$

   Ⓓ 4 balls

   This is not correct. There are 20 balls in the bag and 4 different designs.

   $20 \div 4 = 5$, not 4.

A Visit to the Aquarium

A scout group is going to an aquarium where they will tour the building and learn how the workers care for the animals. The scouts will also help the workers make plans for a new shark tank. At the end of the day, the scouts will sit back and enjoy a seal show. One lucky scout will be called on stage to help out with the show.

1. There are 15 scouts going to the aquarium, and 6 of them are ten years old. There are 2 scouts that are twelve years old. The rest are eleven years old. One of the scouts will be selected to help out with the show. What is the probability that an eleven-year-old scout will be called onto the stage?

   Ⓐ $\frac{2}{6}$

   Ⓑ $\frac{1}{8}$

   Ⓒ $\frac{7}{8}$

   Ⓓ $\frac{7}{15}$

2. Each scout chooses one activity from each session. The first session includes a movie about sharks, a talk about the ocean and a shell search. The second session's choices are a movie about whales and a question-and-answer session. During the third session, there is a dolphin show, a tour of the aquarium, a slide show on fish that give off light and a talk about tropical fish. How many combinations of activities do the scouts have to choose from?

   Ⓐ 9 combinations

   Ⓑ 15 combinations

   Ⓒ 24 combinations

   Ⓓ 30 combinations

Lesson 17

*Read the passage.
Then do Numbers 1–5.*

Abigail's Puppy

Ever since she was a little girl, Abigail wanted a puppy. Her mother said that she was too young to take care of a dog. When Abigail turned ten, her mother finally got her a puppy. Abigail named her dog Buddy. Abigail knows that Buddy depends on her, so she takes good care of her pet. She walks him and gives him plenty of food and water. Now Abigail's dog Buddy really is her best friend.

1. Buddy loves to eat bone-shaped treats. The treats come in packages of 12. Each package has two tan, four red, three green and three yellow treats. Abigail closed her eyes and picked a treat from a new package. What colour treat was she most likely to pick?

   Ⓐ tan
   Ⓑ red
   Ⓒ green
   Ⓓ yellow

2. Abigail went to the pet shop to get supplies for Buddy. She could buy a 2-kilogram, 5-kilogram, 10-kilogram or 20-kilogram bag of dog food. She could buy a black, blue or red collar. She could select a blue, green, red, white or gold leash. How many combinations of food, collar and leash did Abigail have to choose from?

   Ⓐ 12 combinations
   Ⓑ 36 combinations
   Ⓒ 60 combinations
   Ⓓ 72 combinations

Self-Assessment 2

Lessons 6–10

FOCUS on Determining Probability and Averages, Book D

Name _____ Date _____

1. Rate your work in Lessons 6–10. Circle your answer.

   successful   somewhat successful   needs improvement

2. Did any of the questions give you trouble? _____
   If so, what kind of trouble did you have?

   _____

   _____

   Is this the same kind of trouble you had in Lessons 1–5? _____

3. Did you find the questions easier or more difficult than those in Lessons 1–5?

   _____

   Why do you think this is so?

   _____

   _____

4. Did you meet the goal you set for yourself for Lessons 6–10? _____
   Why or why not?

   _____

   _____

5. What is your goal for Lessons 11–15?

   _____

   _____

Cut along the dotted line.