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TIME
FOR KIDS

Practicing for Today's Tests

Level

4

Mathematics



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Today's Next Generation Tests *(cont.)*

What's Different about Today's Standards? *(cont.)*

This overview illustrates key mathematics concepts and thinking skills associated with each of the content strands. It deconstructs the critical understandings of the strands to identify the important “what” (concepts) and “how” (thinking skills) for teachers and students. Notice the repeated use of several higher-level thinking skills in many different content strands.

Strand	Key Concepts	Key Thinking Skills	
Operations and Algebraic Thinking	<ul style="list-style-type: none"> addition subtraction multiplication division relationship between multiplication and division multiplication and division facts within 100 	<ul style="list-style-type: none"> factors multiples numerical expressions patterns problems with the four operations 	<ul style="list-style-type: none"> analyze explain generate identify interpret relate represent solve understand use write
Number and Operations in Base Ten	<ul style="list-style-type: none"> place value system multi-digit arithmetic 	<ul style="list-style-type: none"> properties of operations decimals to hundredths 	<ul style="list-style-type: none"> generalize perform understand use
Number and Operations—Fractions	<ul style="list-style-type: none"> unit fractions fraction equivalence fraction ordering fraction comparison 	<ul style="list-style-type: none"> decimal notation for fractions addition, subtraction, multiplication, and division of fractions 	<ul style="list-style-type: none"> apply build compare extend understand use
Measurement and Data	<ul style="list-style-type: none"> time liquid measures volume relationship of volume to multiplication and addition masses of objects conversion of measurements data 	<ul style="list-style-type: none"> area relationship of area to multiplication and addition perimeter linear vs. area measures angle measures 	<ul style="list-style-type: none"> convert distinguish estimate interpret recognize relate represent solve understand
Geometry	<ul style="list-style-type: none"> shapes attributes/properties lines angles coordinate plane 		<ul style="list-style-type: none"> analyze classify compare describe draw graph identify reason solve

(National Governors Association 2010; Van de Walle, Karp, Lovin, and Bay-Williams 2014)

Making It Meaningful

This section has been included to make this book's test practice more meaningful. The purpose of this section is to provide sample guiding questions framed around a specific practice exercise. This will serve as a meaningful and real-life application of test practice. Each guiding question focuses on strands of mathematics as well as test-taking strategies. The making-it-meaningful questions may be used with students as a teacher-led think aloud or to individually assess how students are approaching and understanding complex mathematical ideas and concepts. The framework used in this model serves as a template for how to approach all the practice exercises in this product. This template supports educators in preparing students for today's tests and helps make meaning of mathematical standards used in classrooms today.

When multiple choice questions have only one correct response, guide students in the following way:

“After reading the problem, can you use logical reasoning to eliminate any responses that do not make sense? How do you know they cannot be correct? Cross them out. Finally, reread and solve the problem, and select the best answer.”

The image shows a worksheet titled "Practice Exercise 16" with fields for "Name:" and "Date:". Below the title are directions: "Directions: Read and solve each problem carefully." There are three numbered problems:

1. Which division problem is represented by $?$?
 - 6 divided by 7
 - 7 divided by 6
 - 13 divided by 6
 - 13 divided by 7
2. Select all measurements that are equal to 200 meters.
 - 0.002 kilometers
 - 0.2 kilometers
 - 20 kilometers
 - 200 centimeters
 - 2,000 centimeters
 - 200,000 millimeters
3. Four children played a video game on Saturday afternoon. Emily and Thomas were on one team. Andie and Kim were on the other team. After they finished, they each recorded their scores. Which team had a better combined score?

Player	Score
Andie	3,973 points
Emily	4,345 points
Kim	4,409 points
Thomas	4,289 points

When students encounter multiple-choice questions with more than one correct solution, coach them to practice the following approach:

“Examine all your options. Make a convincing argument as to why **each one** is true or untrue.”

For all open-ended problems, students should ask themselves the following questions:

“Could I explain this problem to someone else? Do I have to ask any questions to understand the problem better? What is my plan to solve this problem? How can I model my thinking? Is my plan working, or do I need to make adjustments? Does my solution make sense?”

Practice Exercise 16

Directions: Read and solve each problem carefully.

1. Which division problem is represented by $\frac{6}{7}$?

- (A) 6 divided by 7
- (B) 7 divided by 6
- (C) 13 divided by 6
- (D) 13 divided by 7

2. Select **all** measurements that are equal to 200 meters.

- (A) 0.002 kilometers
- (B) 0.2 kilometers
- (C) 20 kilometers
- (D) 200 centimeters
- (E) 2,000 centimeters
- (F) 200,000 millimeters

3. Four children played a video game on Saturday afternoon. Emily and Thomas were on one team. Andre and Kim were on the other team. After they finished, they each recorded their scores. Which team had a better combined score?

Scores

- Andre 3,973 points
- Emily 4,345 points
- Kim 4,409 points
- Thomas 4,289 points

Practice Exercise 16 *(cont.)*

Directions: Read and solve each problem carefully.

4. What are all of the common factors for 12 and 18?

- (A) 1, 2, 3, 6
- (B) 1, 2, 6, 9
- (C) 1, 2, 3, 4, 6, 9
- (D) 1, 2, 3, 4, 6, 9, 12, 18

5. Which statement is true about this figure?



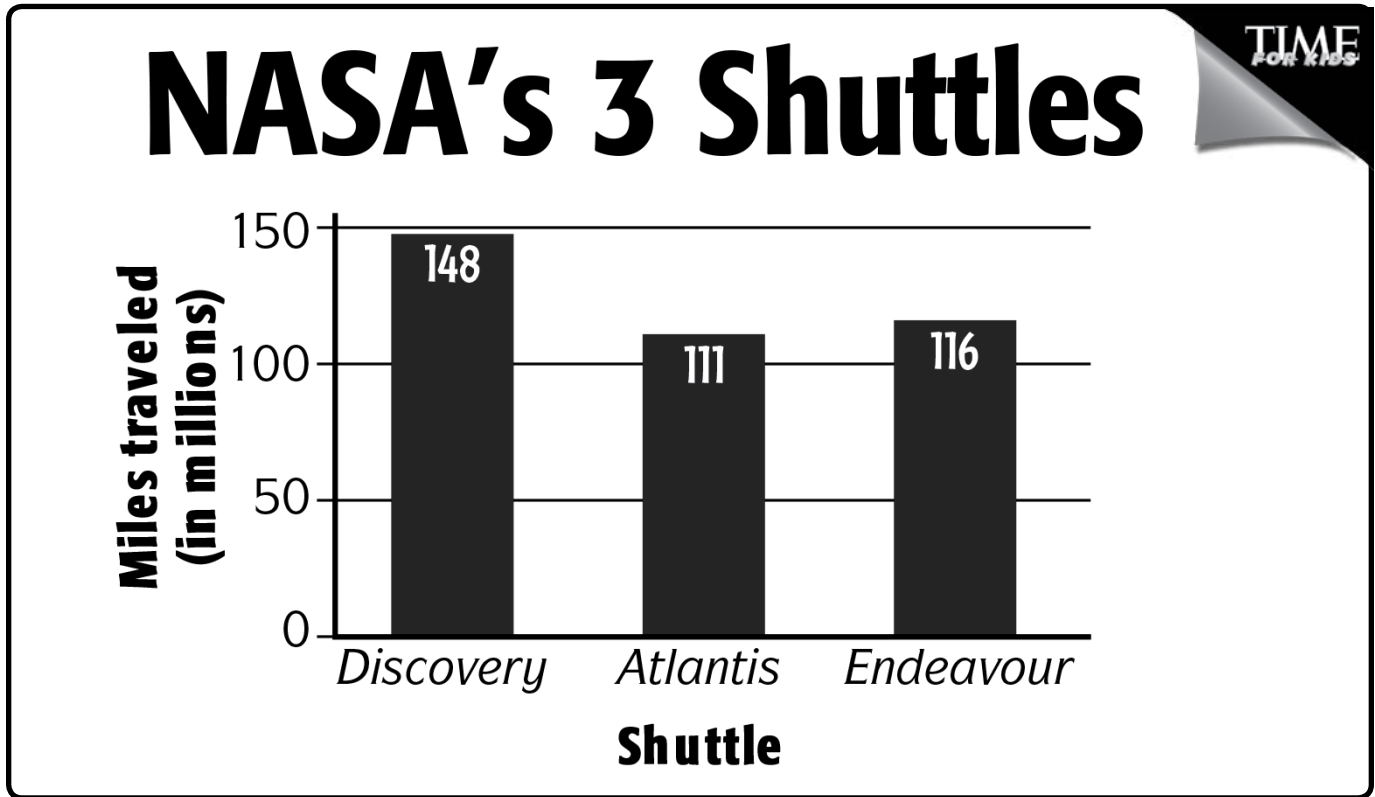
- (A) All sides are congruent.
- (B) All angles are right angles.
- (C) There are exactly two pairs of parallel lines.
- (D) There are exactly two pairs of perpendicular lines.

6. A family wants to grill 6 hamburgers for a picnic. Each hamburger weighs $\frac{4}{5}$ of a pound when it is placed on the grill. What is the total weight, rounded to the nearest whole pound, for all the hamburgers?

Use words or numbers to explain how you found your answer.

Practice Exercise 16 *(cont.)*

Directions: Read and solve each problem carefully.



7. How many miles were covered by all three spaceships?

- (A) 375
- (B) 37,500
- (C) 375,000
- (D) 375,000,000

8. About how many more miles did the *Discovery* travel than the *Atlantis*?

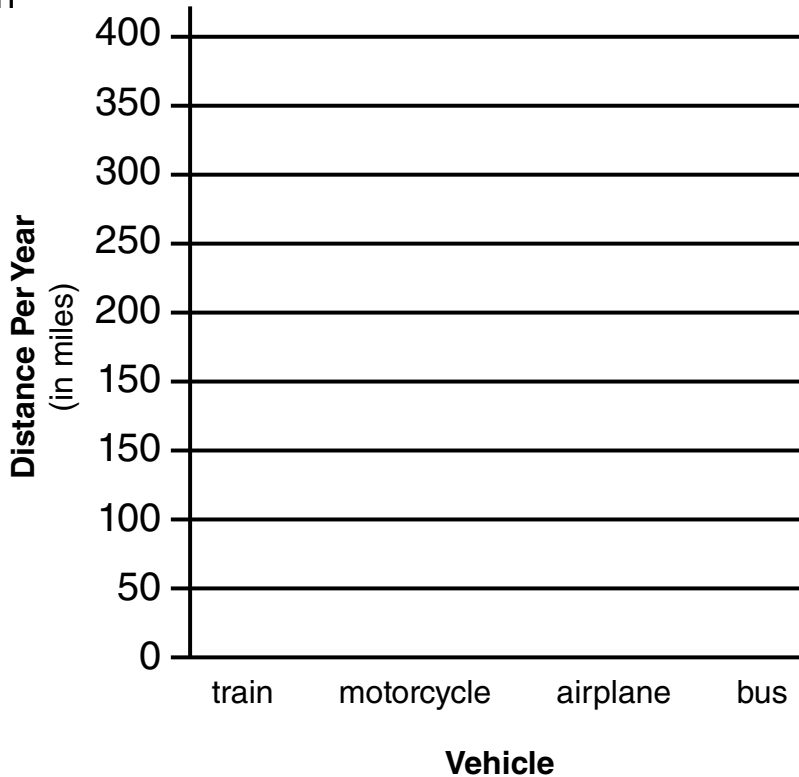
- (E) 10 million
- (F) 20 million
- (G) 30 million
- (H) 40 million

Practice Exercise 16 *(cont.)*

Directions: Read and solve each problem carefully.

9. Use the information in this table to create a bar graph that shows the distance covered by these four vehicles.

Vehicle	Distance Per Year (in miles)
train	296,000
motorcycle	23,000
airplane	378,000
bus	142,000



10. How many total miles were covered by these four vehicles?

11. How many more miles did the three spaceships from the graph, *NASA's 3 Shuttles*, travel than these four vehicles?
