

Sample Pages from



**a division of Teacher Created Materials**

Thanks for checking us out. Please call us at 877-777-3450 with questions or feedback, or to order this product. You can also order this product online at [www.tcmpub.com/shell-education](http://www.tcmpub.com/shell-education).

For correlations to State Standards, please visit:

[www.tcmpub.com/teachers/correlations](http://www.tcmpub.com/teachers/correlations)

Shell Professional and Strategy Resources:

[www.tcmpub.com/teachers/professional-resources/correlations](http://www.tcmpub.com/teachers/professional-resources/correlations)

To **Create** a **World** in  
**Children** Love to **Learn!**

877-777-3450 • [www.tcmpub.com/shell-education](http://www.tcmpub.com/shell-education)

# Practicing for Today's Tests

TIME  
FOR KIDS

Level

6

Mathematics



# Table of Contents

## Introduction

Today's Next Generation Tests . . . . .	4
Making It Meaningful . . . . .	10

## Practice Exercises

Practice Exercise 1 . . . . .	13
Practice Exercise 2 . . . . .	17
Practice Exercise 3 . . . . .	21
Practice Exercise 4 . . . . .	25
Practice Exercise 5 . . . . .	29
Practice Exercise 6 . . . . .	33
Practice Exercise 7 . . . . .	37
Practice Exercise 8 . . . . .	41
Practice Exercise 9 . . . . .	45
Practice Exercise 10 . . . . .	49
Practice Exercise 11 . . . . .	53
Practice Exercise 12 . . . . .	57
Practice Exercise 13 . . . . .	61
Practice Exercise 14 . . . . .	65
Practice Exercise 15 . . . . .	69
Practice Exercise 16 . . . . .	73
Practice Exercise 17 . . . . .	77
Practice Exercise 18 . . . . .	81
Practice Exercise 19 . . . . .	85
Practice Exercise 20 . . . . .	89
Practice Exercise 21 . . . . .	93
Practice Exercise 22 . . . . .	97
Practice Exercise 23 . . . . .	101
Practice Exercise 24 . . . . .	105
Practice Exercise 25 . . . . .	109

## Appendices

Appendix A: References Cited . . . . .	113
Appendix B: Question Types . . . . .	114
Appendix C: Top Tips: Preparing for Today's Tests . . . . .	118
Appendix D: Mathematics Tools . . . . .	120
Appendix E: Answer Key . . . . .	121

# 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	
Ratios and Proportional Relationships	<ul style="list-style-type: none"> <li>ratio concepts</li> <li>ratio reasoning</li> <li>ratio relationships</li> <li>unit rates</li> <li>equivalent ratios</li> </ul>	<ul style="list-style-type: none"> <li>coordinate plane</li> <li>unit pricing</li> <li>constant speed</li> <li>percent of a quantity</li> <li>measurement units</li> </ul>	<ul style="list-style-type: none"> <li>convert</li> <li>find</li> <li>manipulate</li> <li>plot</li> <li>reason</li> </ul>	<ul style="list-style-type: none"> <li>relate</li> <li>solve</li> <li>transform</li> <li>understand</li> <li>use</li> </ul>
The Number System	<ul style="list-style-type: none"> <li>addition/subtraction</li> <li>multiplication/division</li> <li>division of fractions</li> <li>multi-digit arithmetic (whole numbers and decimals)</li> <li>greatest common factor</li> </ul>	<ul style="list-style-type: none"> <li>least common multiple</li> <li>distributive property</li> <li>rational numbers</li> <li>number line</li> <li>coordinate plane</li> <li>absolute value</li> </ul>	<ul style="list-style-type: none"> <li>apply</li> <li>compute</li> <li>distinguish</li> <li>explain</li> <li>express</li> <li>extend</li> </ul>	<ul style="list-style-type: none"> <li>find</li> <li>graph</li> <li>interpret</li> <li>solve</li> <li>understand</li> <li>write</li> </ul>
Expressions and Equations	<ul style="list-style-type: none"> <li>numerical expressions</li> <li>algebraic expressions</li> <li>equations and inequalities</li> <li>exponents</li> <li>arithmetic operations</li> </ul>	<ul style="list-style-type: none"> <li>quantitative relationships</li> <li>dependent/independent variables</li> <li>equivalent expressions</li> </ul>	<ul style="list-style-type: none"> <li>analyze</li> <li>apply</li> <li>evaluate</li> <li>extend</li> <li>generate</li> </ul>	<ul style="list-style-type: none"> <li>identify</li> <li>perform</li> <li>reason</li> <li>represent</li> <li>solve</li> </ul>
Geometry	<ul style="list-style-type: none"> <li>area</li> <li>surface area</li> <li>volume</li> <li>right triangles</li> <li>quadrilaterals</li> <li>polygons</li> </ul>	<ul style="list-style-type: none"> <li>rectangular prism</li> <li>unit cubes</li> <li>fractional edge lengths</li> <li>coordinate plane</li> <li>three-dimensional figures</li> </ul>	<ul style="list-style-type: none"> <li>apply</li> <li>compose</li> <li>decompose</li> <li>draw</li> <li>find</li> </ul>	<ul style="list-style-type: none"> <li>represent</li> <li>solve</li> <li>use</li> </ul>
Statistics and Probability	<ul style="list-style-type: none"> <li>statistical variability</li> <li>data distribution</li> <li>measure of center</li> <li>numerical data set</li> <li>measure of variation</li> </ul>	<ul style="list-style-type: none"> <li>number line</li> <li>dot plots</li> <li>histograms</li> <li>box plots</li> </ul>	<ul style="list-style-type: none"> <li>describe</li> <li>display</li> <li>recognize</li> <li>relate</li> </ul>	<ul style="list-style-type: none"> <li>report</li> <li>summarize</li> <li>understand</li> </ul>

*(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. Then, reread/solve the problem and select the best solution choice.”

The image shows a sample practice exercise page titled "Practice Exercise 2". It includes a name and date line, and instructions to read and solve each problem carefully. The problems are:

- Which expression represents "7 less than  $x$ "?  
 A  $7 - x$   
 B  $x - 7$   
 C  $7 + x$   
 D  $x + 7$
- Select all equations that are true.  
 E  $5 = 9.0$   
 F  $5 = 0.9$   
 G  $5 = 0.09$   
 H  $5 = 0.009$
- A recipe for one cake uses  $\frac{3}{4}$  cup of sugar. Mr. Johnson has 3 cups of sugar. What is the maximum number of cakes he can make using this recipe?

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 problems, students should ask themselves the following questions:

“Could I explain this problem to someone else? Do I have to ask any questions in order 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 15

**Directions:** Read and solve each problem carefully.

1. Four sets of angles are shown in the table. In which of the sets is there a 4:1 ratio between the measure of angle  $P$  and the measure of angle  $V$ ?

Set	Angle $P$ (measure in degrees)	Angle $V$ (measure in degrees)
Set 1	$72^\circ$	$18^\circ$
Set 2	$28^\circ$	$7^\circ$
Set 3	$62^\circ$	$12^\circ$
Set 4	$44^\circ$	$40^\circ$

- Ⓐ Set 1 only
- Ⓑ Set 4 only
- Ⓒ Sets 1 and 2 only
- Ⓓ Sets 1, 2, 3, and 4

2. Anika went shopping for school clothes. She spent \$74.33. She started with \$300.50. Which equation shows how much more money she can spend?

- Ⓐ  $\frac{300.50}{x} = 74.33$
- Ⓑ  $x - 300.50 = 74.33$
- Ⓒ  $74.33 + x = 300.50$
- Ⓓ  $x - 74.33 = 150.50$

3. Pedro said if he can type 200 words in 5 minutes, he can type 60 words per minute. Do you agree with Pedro?
- If you **do**, explain and show your thinking.
  - If you **do not**, explain and show where Pedro made his mistake.
- Use the space below to show your answer.
-

## Practice Exercise 15 (cont.)

**Directions:** Read and solve each problem carefully.

4. The distance from Smallville to Sun Lake City is 50 kilometers. What is the distance in millimeters?

- (A) 500,000
- (B) 5,000,000
- (C) 50,000,000
- (D) 500,000,000

5. The area of a right triangle is 35 square inches. The base is 10 inches. What is the height of the triangle?

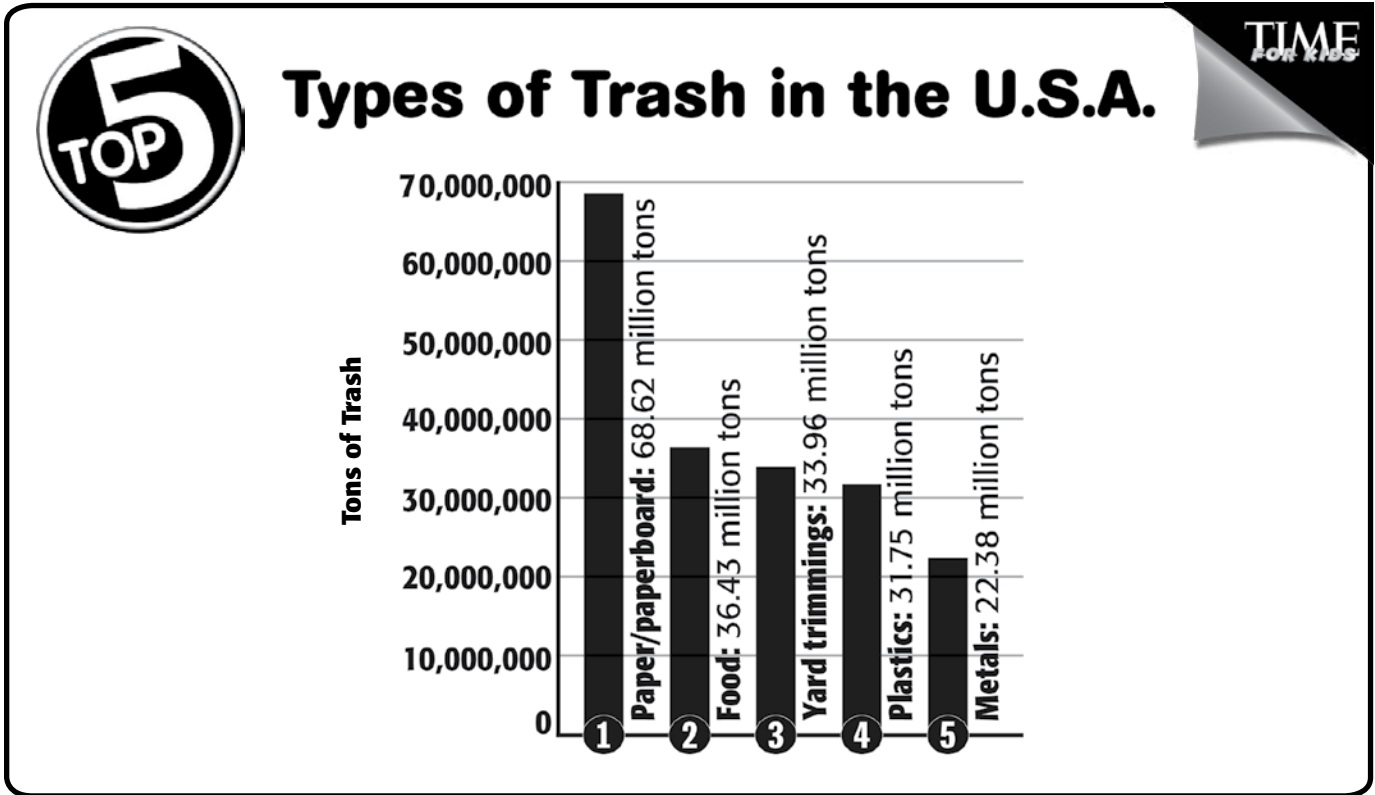
- (A) 4 inches
- (B) 5 inches
- (C) 6 inches
- (D) 7 inches

6. Which equations are true when  $s = 10$ ? Write *true* or *false* for each equation.

Equation	True or False?
$30 - s = 20$	
$\frac{15}{s} = 1.5$	
$10 + s = 25$	
$\frac{100}{s} = 100$	

# Practice Exercise 15 *(cont.)*

**Directions:** Read and solve each problem carefully.



7. What is the total amount, in tons, for the top 5 types of trash in the United States?

- (A) 33,960,000
- (B) 38,628,000
- (C) 68,620,000
- (D) 193,140,000

8. A student said for every 1 million tons of metal trash, there is about 3 million more paper/paperboard trash. Do you agree with this statement? Justify your answer using information from the graph.

---



---



---



---



## Practice Exercise 15 *(cont.)*

**Directions:** Read and solve each problem carefully.

9. Billy asked his class to survey how many bags of trash their families threw away in one week. The numbers below display the data collected. Use this information to construct a box-and-whisker plot. Make sure to include a title, a label for each quartile, and an appropriate scale.

1, 3, 5, 7, 9, 10, 15, 2, 5, 7, 19, 20, 1, 14, 15



10. What is the range for the bags of trash the students in Billy's class throw away in a week? What is the median of the data?

Range: \_\_\_\_\_

Median: \_\_\_\_\_

11. What are two conclusions that can be made based on the data and the box-and-whisker plot?

---

---

---