

Contents

- Introduction **3**
- Suggestions for Use **8**
- Additional Materials for Review **9**
- Scoring Rubric for Constructed-Response Items **10**
- Scoring Rubric for Extended-Response Items **10**
- Answer Key
 - Unit 1 **11**
 - Unit 2 **13**
 - Unit 3 **15**
 - Unit 4 **17**
 - Unit 5 **18**
 - Unit 6 **20**
 - Unit 7 **21**
 - Practice Test **24**
- Reproducible Answer Sheets for Practice Test **26**
- Reproducible Answer Sheet for Multiple-Choice Items with Answer Key for Practice Test **30**
- Common Core State Standards for Mathematics, Grade 7 **31**
- Reproducible Skill Analysis Chart for Practice Test **36**
- Reproducible Cut-Out Tools **37**

Acknowledgments

Common Core State Standards © Copyright 2010. National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.

ISBN 978-0-8454-K6763-3

Copyright © 2011 The Continental Press, Inc.

Excepting the designated reproducible blackline masters, no part of this publication may be reproduced in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher. All rights reserved. Printed in the United States of America.



Answer Key

Unit 1 Ratio, Proportion, and Percent

Lesson 1 Rates pp. 8–11

1. B [7.RP.1]
2. A [7.RP.1]
3. D [7.RP.1]
4. B [7.RP.1]
5. A [7.RP.1]
6. Constructed response [7.RP.1]
20
7. Constructed response [7.RP.1]
 $\frac{3}{32}$ pound
8. Constructed response [7.RP.1]
 $\frac{12}{25}$ of the room painted in 1 hour
9. Constructed response [7.RP.1]
1.6
10. Extended response [7.RP.1]
Part A: $\frac{1}{4}$ feet per year
Part B: $\frac{1}{12}$

Part B: 3 feet. *Explanations may vary but should say something like the following:* I divided the fraction to find the unit rate:
 $\frac{1}{4} \div \frac{1}{12} = \frac{1}{4} \times \frac{12}{1} = \frac{12}{4} = 3$ feet in 1 year.

11. Extended response [7.RP.1]
Part A: $\frac{7}{10}$
Part B: 2.1 miles. *Explanations may vary but should say something like the following:* First I divided the fraction from part A to find the unit rate: $\frac{7}{10} \div \frac{1}{6} = \frac{7}{10} \times \frac{6}{1} = \frac{42}{10} = 4.2$ miles in 1 hour. Then I multiplied the unit rate by the time: $4.2 \times \frac{1}{2} = 2.1$ miles.

Lesson 2 Solving Proportions pp. 12–15

1. B [7.RP.2.b]
2. D [7.RP.2.c]
3. C [7.RP.2.a]
4. A [7.RP.3]
5. D [7.RP.3]
6. Constructed response [7.RP.2.a]
 $\frac{12}{15}$ and $\frac{16}{20}$

7. Constructed response [7.RP.2.b]
 $\frac{4}{1}$
8. Constructed response [7.RP.3]
\$15
9. Extended response [7.RP.2.a]
Part A: Yes
Part B: *Explanations may vary but should say something like the following:* The recipe ratio is $\frac{3}{2}$. Misty's ratio is $\frac{4}{\frac{1}{2}}$, which simplifies to $\frac{3}{2}$. They are the same.
10. Extended response [7.RP.2.c, 7.RP.3]
Part A: $\frac{4}{3} = \frac{7}{x}$
Part B: \$5.25. *Explanations may vary but should say something like the following:* I cross multiplied the numbers in the equation from part A and solved for x : $4x = 21$, so $x = 21 \div 4 = \$5.25$.

Lesson 3 Proportional Relationships pp. 16–19

1. D [7.RP.2.a]
2. A [7.RP.2.b]
3. D [7.RP.2.b]
4. B [7.RP.2.c]
5. Constructed response [7.RP.2.b]
0.11 or \$0.11
6. Constructed response [7.RP.2.a]
All of the quantities are proportional.
7. Constructed response [7.RP.2.c]
 $y = 25x$
8. Extended response [7.RP.2.a, c]
Part A: *Explanations may vary but should say something like the following:* The ratio of quarts to square feet for each pair of numbers is the same: $\frac{1}{40} = \frac{1\frac{1}{2}}{120} = \frac{4}{320} = \frac{6}{480} = \frac{1}{80}$.
Part B: $y = 80x$. *Explanations may vary but should say something like the following:* In this relationship, the area covered is proportional to the number of quarts used. So y represents the area and x represents the quarts. Then $\frac{40}{1} = 80$, so the equation is $y = 80x$.

Common Core State Standards for Mathematics, Grade 7

Ratios and Proportional Reasoning

7.RP

Analyze proportional relationships and use them to solve real-world and mathematical problems.

1. Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or different units.

For example, if a person walks $\frac{1}{2}$ mile in each $\frac{1}{4}$ hour, compute the unit rate as the complex fraction $\frac{\frac{1}{2}}{\frac{1}{4}}$ miles per hour, equivalently $\frac{2}{1}$ miles per hour.

2. Recognize and represent proportional relationships between quantities.
 - a. Decide whether two quantities are in proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin.
 - b. Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships.
 - c. Represent proportional relationships by equations. *For example, if total cost t is proportional to the number n of items purchased at a constant price, p , the relationship between the total cost and the number of items can be expressed as $t = pn$.*
 - d. Explain what a point (x, y) on a graph of a proportional relationship means in terms of the situation, with special attention to the points $(0, 0)$ and $(1, r)$, where r is the unit rate.
3. Use proportional relationships to solve multistep ratio and percent problems. *Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.*

The Number System

7.NS

Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.

1. Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.
 - a. Describe situations in which opposite quantities combine to make 0. *For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.*
 - b. Understand $p + q$ as the number located a distance $|q|$ from p , in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.

