California Mathematics 3
Chapter 13
Resource Masters

Includes:
Chapter Resources
- Graphic Organizer
- Student-Built Glossary
- Family Letter
- Anticipation Guide
- Game

Leveled Lesson Resources
- Reteach
- Skills Practice
- Homework Practice
- Problem-Solving Practice
- Enrich

Assessment Resources
- Individual Progress Checklist
- Chapter Diagnostic Test
- Chapter Pretest
- 3 Quizzes
- Mid-Chapter Test
- Vocabulary Test
- Oral Assessment
- Chapter Project Rubric
- Foldables Rubric
- 6 Chapter Tests
- Extended Response Test
- Student Recording Sheet
- Cumulative Standardized Test Practice
- Answer Pages
- Chapter 15 Assessment Line-up
- Answer Keys

All Answers Included
Grade 3 Chapter 13
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The Chapter 13 Resource Masters includes the core materials needed for Chapter 13. These materials include worksheets, extensions, and assessment options. The answers for these pages appear at the back of this booklet.

All of the materials found in this booklet are included for viewing and printing on the TeacherWorks Plus™ CD-ROM.

Chapter Resources

**Graphic Organizer** (page 1) This master is a tool designed to assist students with comprehension of grade-level concepts. While the content and layout of these tools vary, their goal is to assist students by providing a visual representation from which they can learn new concepts.

**Student Glossary** (page 2) This master is a study tool that presents the key vocabulary terms from the chapter. You may suggest that students highlight or star the terms they do not understand. Give this list to students before beginning Lesson 13–1. Remind them to add these pages to their mathematics study notebooks.

**Anticipation Guide** (page 6) This master is a survey designed for use before beginning the chapter. You can use this survey to highlight what students may or may not know about the concepts in the chapter. There is space for recording how well students answer the questions before they complete the chapter. You may find it helpful to interview students a second time, after completing the chapter, to determine their progress.

**Game** (page 7) A game is provided to reinforce chapter concepts and may be used at appropriate times throughout the chapter.

Resources for Computational Lessons

**Reteach** Each lesson has an associated Reteach worksheet. In general, the Reteach worksheet focuses on the same lesson content but uses a different approach, learning style, or modality than that used in the Student Edition. The Reteach worksheet closes with computational practice of the concept.

**Skills Practice** The Skills Practice worksheet for each lesson focuses on the computational aspect of the lesson. The Skills Practice worksheet may be helpful in providing additional practice of the skill taught in the lesson.

**Homework Practice** The Homework Practice worksheet provides an opportunity for additional computational practice. The Homework Practice worksheet includes word problems that address the skill taught in the lesson.

**Problem-Solving Practice** The Problem-Solving Practice worksheet presents additional reinforcement in solving word problems that apply both the concepts of the lesson and some review concepts.

**Enrich** The Enrich worksheet presents activities that extend the concepts of the lesson. Some Enrich materials are designed to widen students’ perspectives on the mathematics they are learning. These worksheets are written for use with all levels of students.

Resources for Problem-Solving Strategy and Problem-Solving Investigation Lessons In recognition of the importance of problem-solving strategies, worksheets for problem-solving lessons follow a slightly different format. For problem-solving lessons, a two-page Reteach worksheet offers a complete model for choosing a problem-solving strategy. For each Problem-Solving Strategy lesson, Reteach and Homework Practice worksheets offer reinforcement of the strategy taught in the Student Edition lesson. In contrast, the Problem-Solving
Investigation worksheets include a model strategy on the Reteach worksheets and provide problems requiring several alternate strategies on the Homework Practice and Skills Practice worksheets.

Assessment Options  The assessment masters in the Chapter 13 Resource Masters offer a wide variety of assessment tools for monitoring progress as well as final assessment.

Individual Progress Checklist  This checklist explains the chapter’s goals or objectives. Teachers can record whether a student’s mastery of each objective is beginning (B), developing (D), or mastered (M). The checklist includes space to record notes to parents as well as other pertinent observations.

Chapter Diagnostic Assessment  This one-page test assesses students’ grasp of skills that are needed for success in the chapter.

Chapter Pretest  This one-page quick check of the chapter’s concepts is useful for determining pacing. Performance on the pretest can help you determine which concepts can be covered quickly and which specific concepts may need additional time.

Mid-Chapter Review  This one-page chapter test provides an option to assess the first half of the chapter. It includes both multiple-choice and free-response questions.

Quizzes  Three free-response quizzes offer quick assessment opportunities at appropriate intervals in the chapter.

Vocabulary Test  This one-page test focuses on chapter vocabulary. It is suitable for all students. It includes a list of vocabulary words and questions to assess students’ knowledge of the words.

Oral Assessment  This two-page test consists of one page for teacher directions and questions and a second page for recording responses. Although this assessment is designed to be used with all students, the interview format focuses on assessing chapter content assimilated by ELL students.

Chapter Project Rubric  This one-page rubric is designed for use in assessing the chapter project. You may want to distribute copies of the rubric when you assign the project and use the rubric to record each student’s chapter project score.

Foldables Rubric  This one-page rubric is designed to assess the Foldables graphic organizer. The rubric is written to the students, telling them what you will be looking for as you evaluate their completed Foldables graphic organizer.

Leveled Chapter Tests

- **Form 1** assesses basic chapter concepts through multiple-choice questions and is designed for use with on-level students.
- **Form 2A** is designed for on-level students and is primarily for those who may have missed the Form 1 test. It may be used as a retest for students who received additional instruction following the Form 1 test.
- **Form 2B** is designed for students with a below-level command of the English language.
- **Form 2C** is a free-response test designed for on-level students.
- **Form 2D** is written for students with a below-level command of the English language.
- **Form 3** is a free-response test written for above-level students.
- **Extended-Response Test** is an extended response test for on-level students.

Student Recording Sheet  This one-page recording sheet is for the standardized test in the Student Edition.

Cumulative Standardized Test Practice  This three-page test, aimed at on-level students, offers multiple-choice questions and free-response questions.

Answers

The answers for the Anticipation Guide and Lesson Resources are provided as reduced pages with answers appearing in black. Full size line-up answer keys are provided for the Assessment Masters.
Use this graphic organizer to take notes on **Chapter 13: Fractions and Decimals**. Fill in the missing information.

<table>
<thead>
<tr>
<th>Decimal</th>
<th>Fraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\frac{4}{10}$</td>
</tr>
<tr>
<td>0.60</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\frac{65}{100}$</td>
</tr>
<tr>
<td>0.99</td>
<td></td>
</tr>
</tbody>
</table>
This is an alphabetical list of new vocabulary terms you will learn in Chapter 13: Fractions and Decimals. As you study the chapter, complete each term’s definition or description. Remember to add the page number where you found the term. Add this page to your math study notebook to review vocabulary at the end of the chapter.

<table>
<thead>
<tr>
<th>Vocabulary Term</th>
<th>Found on Page</th>
<th>Definition/Description/Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>addition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>decimal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>decimal point</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fraction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vocabulary Term</td>
<td>Found on Page</td>
<td>Definition/Description/Example</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>hundredth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>subtraction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>tenth</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Dear Family,

Today my class started Chapter 13: Fractions and Decimals. I will be learning to add and subtract money in decimals notation. I will also be learning to relate fractions and decimals to money. Here are my vocabulary words and an activity that we can do together.

Love, ________________

Key Vocabulary

decimal  A number with one or more digits to the right of the decimal point.
8.37

decimal point  A period separating the ones and the tenths in a number.
0.8

tenth  One of ten equal parts, \( \frac{1}{10} \), or 0.1.

hundredth  A place value position. One of one hundred equal parts, \( \frac{1}{100} \), or 0.1.

fraction  A number that represents part of a whole or part of a set. \( \frac{1}{2} \)

addition  An operation on two or more addends that is equal to a sum.
9 + 3 = 12

subtraction  An operation that tells the difference, when some or all are taken away.
9 − 4 = 5

Activity

Use construction paper to draw a large pizza with 8 individual slices. Cut out each individual slice and then place the pizza on a plate. If you take away 2 of the slices, what fraction, in simplest form, represents the number of slices taken away? Repeat the activity by changing the number of slices you take away.

Books to Read

The Fraction Family Moves West
by Marti Dryk

Piece=Part=Portion
by Scott Gifford

Gator Pie
by Louise Mathews
Estimada familia:

Hoy mi clase comenzó el Capítulo 13: Las fracciones y los decimales. Aprenderé a sumar y restar dinero en notación decimal y a relacionar las fracciones y decimales con el dinero. A continuación, están mis palabras de vocabulario y una actividad que podemos hacer juntos.

Cariños, ______________________

Vocabulario clave

decimal Número con uno o más dígitos a la derecha del punto decimal. 8.37

decimales Operación que se realiza en dos o más sumandos y que resulta en una suma.

sustracción Operación que indica la diferencia cuando se elimina algo o todo.

fracción Número que representa parte de un todo o parte de un conjunto.

punto decimal Punto que separa las unidades de las décimas en un número decimal. 0.8

décima Una de diez partes iguales ó \( \frac{1}{10} \).

centésima Valor de posición. Una de cien partes iguales.

Actividad

Usen cartulina para dibujar una pizza grande con 8 trozos individuales. Recorten cada uno y luego coloquen la pizza en un plato. Si quitan 2 de los trozos, ¿qué fracción, en forma reducida, representa el número de trozos que se quitaron? Repitan la actividad cambiando el número de trozos que quiten.

Libros recomendados

The Fraction Family Moves West
de Marti Dryk

Piece=Part=Portion
de Scott Gifford

Gator Pie
de Louise Mathews
## Anticipation Guide

### Fractions and Decimals

### STEP 1

**Before you begin Chapter 13**

- Read each statement.
- Decide whether you agree (A) or disagree (D) with the statement.
- Write A or D in the first column OR if you are not sure whether you agree or disagree, write NS (not sure).

<table>
<thead>
<tr>
<th>STEP 1 A, D, or NS</th>
<th>Statement</th>
<th>STEP 2 A or D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>A decimal is a number with one or more digits to the right of the decimal point.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>A decimal point is a period separating the ones and the tenths in a number.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>A tenth is one of one hundred equal parts.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>A hundredth is one of ten equal parts.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>A fraction is a number that represents part of a whole or part of a set.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Addition is an operation on two or more addends that is equal to a sum.</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Subtraction is an operation that tells the difference, when some or all are taken away.</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>5 + 5 = 10 is an example of addition.</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>19 – 8 = 11 is an example of subtraction.</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Addition and subtraction both involve taking numbers away.</td>
<td></td>
</tr>
</tbody>
</table>

### STEP 2

**After you complete Chapter 13**

- Reread each statement and complete the last column by entering an A (agree) or a D (disagree).
- Did any of your opinions about the statements change from the first column?
- For those statements that you mark with a D, use a separate sheet of paper to explain why you disagree. Use examples, if possible.
Chapter 13 Game

Concentrate on Fractions and Decimals

You will need:
20 index cards
Marker

Write the fractions and decimals on each index card.

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>45</td>
<td>5</td>
<td>25</td>
<td>37</td>
</tr>
<tr>
<td>10</td>
<td>100</td>
<td>10</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>6</td>
<td>33</td>
<td>8</td>
<td>75</td>
<td>56</td>
</tr>
<tr>
<td>10</td>
<td>100</td>
<td>10</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>0.2</td>
<td>0.45</td>
<td>0.5</td>
<td>0.25</td>
<td>0.37</td>
</tr>
<tr>
<td>0.6</td>
<td>0.33</td>
<td>0.8</td>
<td>0.75</td>
<td>0.56</td>
</tr>
</tbody>
</table>

1. Shuffle the cards and place them face down in 4 rows with 5 cards in each row.
2. Have player 1 turn over two cards. If the cards match, he or she keeps them and takes another turn. If they do not match, the player returns the cards face down to their original places.
3. Repeat the activity with player 2. The players take turns. When all the cards have been matched, the game is over. The player with the most cards wins.
**Reteach**

**Tenths**

You can use a fraction or a decimal to name parts of a whole.

1¢ = \(\frac{1}{10}\) of a dollar
Read: one tenth
Fraction: \(\frac{1}{10}\)
Decimal: 0.1 or $0.10

5¢ = \(\frac{5}{100}\) of a dollar
Read: five hundredths
Fraction: \(\frac{5}{100}\)
Decimal: 0.05 or $0.05

Write a fraction and a decimal for the part that is shaded.

1. _____  
2. _____  
3. _____

Write each fraction as a decimal.

4. \(\frac{7}{10}\) _____  
5. three tenths _____  
6. \(\frac{9}{10}\) _____

Write each decimal as a fraction.

7. 0.5 _____  
8. 0.4 _____  
9. 0.1 _____
Skills Practice

13-1

Tenths

Write a decimal for each.

1. 
2. 
3. 
4. 

5. \(\frac{5}{10} = \) 
6. \(\frac{1}{10} = \) 
7. \(\frac{9}{10} = \) 
8. \(\frac{4}{10} = \) 

9. \(\frac{2}{10} = \) 
10. \(\frac{6}{10} = \) 
11. \(\frac{8}{10} = \) 
12. \(\frac{7}{10} = \) 

13. six tenths __________
14. eight tenths __________
15. three tenths __________
16. nine tenths __________
17. two tenths __________
18. one tenth __________
19. five tenths __________
20. seven tenths __________

Solve.

21. There are 10 children at the Sunnyside Preschool. Seven children are younger than 4 years old. Write a fraction and a decimal for the number of children who are younger than 4 years old.

22. There are 10 third grade students near the swings. Six of the students are girls. Write a fraction and a decimal for the number of girls.

________________________
Write a fraction and a decimal for the part that is shaded.

1. \[ \quad \]

2. \[ \quad \]

Write each fraction as a decimal.

3. \( \frac{5}{10} \) ______

4. four tenths ______

5. \( \frac{2}{10} \) ______

6. Benny ate \( \frac{3}{10} \) of his snack. ______

7. Han ate \( \frac{1}{10} \) of his beans. ______

Write each decimal as a fraction.

8. 0.6 ______

9. 0.8 ______

10. 0.1 ______

11. Jamil had 0.5 of his sandwich left. ______

12. Arnie has 0.2 of his drink. ______

Subtract. Use fraction models if needed. (Lesson 12–7)

13. \( \frac{3}{5} - \frac{1}{5} \) = ______

14. \( \frac{6}{7} - \frac{3}{7} \) = ______
1. Kosey was one of 10 players on his team. If there are 4 girls, write the number of girls in decimal form. Write the number of boys on the team in a fraction form.

2. There are 10 cats in the shelter. Three cats are black, 1 is white, and 6 are tabbies. How many cats are tabbies out of the ten? Write your answer in a decimal form.

3. You ate 0.8 of your french fries. How many do you have left? Write your answer as a fraction.

4. Akira has 6 toy cars. His friend, Masao has 4 toy cars. What is the fraction of toys that Akira had out of the 10 toys they had altogether?

5. Your pizza has ten pieces altogether and you ate two pieces. How many pieces do you have left? Write a fraction.

6. If you saw 4 red birds and 6 blue birds, what part of the birds were red? Write your answer as a decimal.

7. Out of her 10 toes, your sister painted 0.5 of her toes red and 0.5 of them white. How many were red out of the 10?

8. You have 4 pairs of sneakers and 6 pairs of other shoes, including 2 pairs of dress shoes. How many sneakers do you have out of all the shoes? Write the number of sneakers in decimal form and as a fraction.
**Enrich**

*Learning About Tenths*

Fill in the blanks in the chart below.

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Decimal</th>
<th>Model</th>
<th>Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. a. (\frac{3}{10})</td>
<td>b. _____</td>
<td>c.</td>
<td>d. three tenths</td>
</tr>
<tr>
<td>2. a. _____</td>
<td>b. _____</td>
<td>c.</td>
<td>d. _____</td>
</tr>
<tr>
<td>3. a. _____</td>
<td>b. _____</td>
<td>c.</td>
<td>d. eight tenths</td>
</tr>
<tr>
<td>4. a. _____</td>
<td>b. 0.2</td>
<td>c.</td>
<td>d. _____</td>
</tr>
<tr>
<td>5. a. _____</td>
<td>b. _____</td>
<td>c.</td>
<td>d. _____</td>
</tr>
<tr>
<td>6. a. _____</td>
<td>b. 0.1</td>
<td>c.</td>
<td>d. _____</td>
</tr>
<tr>
<td>7. a. (\frac{4}{10})</td>
<td>b. _____</td>
<td>c.</td>
<td>d. _____</td>
</tr>
<tr>
<td>8. a. _____</td>
<td>b. _____</td>
<td>c.</td>
<td>d. five tenths</td>
</tr>
<tr>
<td>9. a. (\frac{7}{10})</td>
<td>b. _____</td>
<td>c.</td>
<td>d. _____</td>
</tr>
</tbody>
</table>

Complete the number line. The pattern is fraction, decimal, then words.

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(\frac{1}{10})</td>
<td>0.2</td>
<td>three tenths</td>
<td>(\frac{4}{10})</td>
<td></td>
</tr>
</tbody>
</table>

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Reteach

Hundredths

This model shows 5 tenths shaded.

You can write $\frac{5}{10}$ as a decimal, 0.5.
Read: five tenths

$\frac{5}{10} = 0.5$

This model shows 12 hundredths shaded.

$\frac{12}{100}$ Decimal: 0.12
Read: twelve hundredths

Write each as a decimal.

1. $\frac{7}{10} = \underline{0.7}$
2. $\frac{3}{10} = \underline{0.3}$
3. $\frac{15}{100} = \underline{0.15}$
4. $\frac{8}{100} = \underline{0.08}$
5. $\frac{59}{100} = \underline{0.59}$
6. $\frac{9}{10} = \underline{0.9}$
7. $\frac{14}{100} = \underline{0.14}$

Grade 3

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Write each as a decimal.

1. 

2. 

3. 

4. 

5. \(\frac{6}{10} = \) 

6. \(\frac{2}{10} = \) 

7. \(\frac{3}{10} = \) 

8. \(\frac{8}{10} = \) 

9. \(\frac{17}{100} = \) 

10. \(\frac{35}{100} = \) 

11. \(\frac{7}{100} = \) 

12. \(\frac{5}{100} = \) 

13. nine tenths 

14. sixteen hundredths 

15. three hundredths 

16. nine hundredths 

17. eight hundredths 

18. forty-one hundredths 

For Exercises 19 and 20, write a fraction and a decimal.

19. There are 100 people at the game. Forty-two people are sitting. What part of the group of people are not sitting? 

20. Tim has seen 100 movies. 76 of the movies are comedies. What part of the movies are not comedies?
Write a fraction and a decimal for the part that is shaded.

1. 

2. 

3. 

Write each decimal as a fraction.

4. 0.64 ______

5. 0.17 ______

6. 0.48 ______

7. 0.35 ______

Spiral Review

Write each fraction as a decimal. (Lesson 13–1)

8. \( \frac{3}{10} \) ______

9. \( \frac{6}{10} \) ______

10. \( \frac{2}{10} \) ______

11. \( \frac{7}{10} \) ______

12. \( \frac{4}{10} \) ______

Write each decimal as a fraction.

13. 0.1 ______

14. 0.3 ______
1. Omar had a box of 100 pretzels. If he separated them out for snacks, and he put 10 in a bag, how many pretzels did he use if he made 5 bags? Write your answer as a fraction and a decimal.

2. Order the numbers from least to greatest.

\[
0.65 \quad \frac{4}{100} \quad \frac{89}{100} \quad 0.42
\]

3. Your puzzle has 100 pieces. You have only 47 pieces left, so what part have you put together out of 100 in a fraction form?

4. In your novel, you are on page 34 out of 100. What is the decimal and fraction of the part you have left to read?

5. Zina has eaten \( \frac{75}{100} \) of her lunch. What part of the lunch does she have left?

6. A zoo has 100 animals. If there are 40 reptiles, 25 mammals, and 35 birds, how many mammals are there out of the 100? Write your answer as a fraction.

7. There are 100 toy men in a package. Your friend places 54 pieces on his side, how many pieces do you have?

8. You have planted 94 rows out of your 100-row garden. How many rows do you have left to plant?
13–2

**Enrich**

**Space Shuttle**

Match the decimals to the word names or fractions below. Write the letters on the line to find the answers to the questions.

1. Who was the first male pilot to fly the Space Shuttle?

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Word Name</th>
<th>Fraction</th>
<th>Word Name</th>
<th>Fraction</th>
<th>Word Name</th>
<th>Fraction</th>
<th>Word Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/100</td>
<td>sixty</td>
<td>3/100</td>
<td>six</td>
<td>41/100</td>
<td></td>
<td>97/100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>hundredths</td>
<td></td>
<td>hundredths</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>five-nine hundredths</td>
<td>6/100</td>
<td>fifteen hundredths</td>
<td>13/100</td>
<td>thirty-eight hundredths</td>
<td>38/100</td>
<td>three hundredths</td>
<td>97/100</td>
</tr>
</tbody>
</table>

2. Who was the first female pilot to fly the Space Shuttle?

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Word Name</th>
<th>Fraction</th>
<th>Word Name</th>
<th>Fraction</th>
<th>Word Name</th>
<th>Fraction</th>
<th>Word Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/100</td>
<td>thirteen</td>
<td>3/100</td>
<td>three</td>
<td>3/100</td>
<td>ninetysseven hundredths</td>
<td>97/100</td>
<td>seventy-five hundredths</td>
</tr>
<tr>
<td></td>
<td>hundredths</td>
<td></td>
<td>hundredths</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fifty-nine hundredths</td>
<td>60/100</td>
<td>sixty-two hundredths</td>
<td>62/100</td>
<td>thirteen hundredths</td>
<td>97/100</td>
<td>seventy-five hundredths</td>
<td></td>
</tr>
</tbody>
</table>

3. What is the agency that runs the U.S. Space Shuttle Program?

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Word Name</th>
<th>Fraction</th>
<th>Word Name</th>
<th>Fraction</th>
<th>Word Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>97/100</td>
<td>nineteen</td>
<td>19/100</td>
<td>seventeen</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>hundredths</td>
<td></td>
<td>hundredths</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Bob, James, and Ruth are playing a decimal game. One person has 0.02 points. One person has 0.25 points. One person has 0.6 points. Bob does not have the least number of points. Ruth’s score is in the hundredths. James has a score equivalent to $\frac{6}{10}$. What are the scores of each player?

**Step 1**
Understand

**Be sure you understand the problem.**
Read carefully.

What do you know?

- The scores are 0.02, 0.25, and 0.6.
- Bob does not have the least number of points.
- Ruth’s score is in the hundredths.
- James has a score equivalent to $\frac{6}{10}$.

What do you need to know?

- You need to find

**Step 2**
Plan

**Make a plan.**
Choose a strategy.

Use the *act it out* strategy to solve the problem.

Have three people represent Bob, Ruth, and James. Write each score on a piece of paper. Give each person a number according to the facts.
13–3

Reteach

Problem-Solving Strategy (continued)

<table>
<thead>
<tr>
<th>Step 3</th>
<th>Carry out your plan.</th>
</tr>
</thead>
</table>
| Solve  | Give James 0.6 because it is the only number equivalent to \( \frac{6}{10} \). Since 0.02 is the least number, give Bob 0.25. That means that Ruth has 0.02, which makes sense because it is in the hundredths.

<table>
<thead>
<tr>
<th>Step 4</th>
<th>Is the solution reasonable?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check</td>
<td>Reread the problem.</td>
</tr>
<tr>
<td></td>
<td>How can you check your answers?</td>
</tr>
</tbody>
</table>

Practice

1. Ed, Marsha, and Gene are playing a game with decimals. Each person has one of the following decimals: 0.5, 0.54, and 0.2. Ed’s number is not equivalent to \( \frac{5}{10} \) or \( \frac{2}{10} \). Marsha’s number is greater than Gene’s number. What are the numbers of each player?

2. Cathy has 100 marbles. \( \frac{28}{100} \) of them are blue. Thirty hundredths of her marbles are green. The rest are red. What decimal represents the number of marbles that are red?
1. Tickets to the movies cost $8 for adults and $5 for children. How much does a family of 2 adults and 4 children pay for tickets?

2. The Sanchez family stops in the grocery store. Juice bottles cost $3. Paper towel rolls cost $2. How much does it cost to buy 2 juice bottles and 3 paper towel rolls?

3. There are 100 workers at the Science Center. There are 58 women. What decimal represents the workers who are men?

4. Lana’s family travels 100 miles to her grandmother’s house. After 40 miles, they stop for lunch. What decimal represents the part of the trip that they have left?

5. Sue, George, Paul, and Tina are in line for a movie. The first person in line is a boy. George is ahead of Sue, but not ahead of Tina. List the names in order from first to last in line.

6. Write a problem that you could use the act it out strategy to solve. Share it with others.
Solve. Use the *act it out* strategy.

1. A scuba diver saw many animals on his dive. If you can see 0.5 of the animals in the picture, how many more animals did the diver see? How many total animals did he see?

2. A fisherman caught a total of 10 fish in one day. If he ate 0.3 of the fish for breakfast and 0.3 of the fish for lunch, how many fish did he have for dinner?

3. Mai Lin has saved 7 coins. If she needs 10 coins to buy a toy, how many more coins does she need?

4. Sunee has 10 stuffed animals. She lent 0.2 of them to one friend. How many of her stuffed animals did she not lend?

5. Mini collects bugs. She has 48 bugs altogether. If she can fit 10 bugs in each container, how many containers will she need to house all of her collection?

### Spiral Review

Write each fraction as a decimal. (Lesson 13–2)

6. \( \frac{6}{100} \)  
7. \( \frac{25}{100} \)  
8. \( \frac{97}{100} \)

Write each decimal as a fraction.

9. 0.80  
10. 0.01  
11. 0.08

12. If you eat 0.6 of the pretzels and you had 10 to start with, how many are leftover?
Complete the money chart. Then solve the money riddles.

<table>
<thead>
<tr>
<th>Penny</th>
<th>Nickel</th>
<th>Dime</th>
<th>Quarter</th>
<th>Half-dollar</th>
<th>Dollar</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(\frac{1}{100}) of a dollar</td>
<td>of a dollar</td>
<td>of a dollar</td>
<td>of a dollar</td>
<td>of a dollar</td>
<td>(\frac{100}{100} = 1) dollar</td>
</tr>
</tbody>
</table>

1. What is the least number of coins you can use to buy a pack of pencils for $0.48 without using a half-dollar and getting change? List the coins.

2. Randy has 9 coins with a total value of $0.86. What are his coins?

What fraction could you write to show the value in hundredths of a dollar that Randy has?

3. Charlene has 2 quarters, 1 nickel, 2 dimes, and 4 pennies.
What fraction could you write to show the value in hundredths of a dollar that Charlene has?

4. Make up your own money riddle. Write the riddle and the answer.
Reteach

Decimals and Money

<table>
<thead>
<tr>
<th>KEY</th>
<th>CONCEPT</th>
<th>Fractions, Decimals, and Money</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money</td>
<td>Words</td>
<td>Numbers</td>
</tr>
<tr>
<td></td>
<td>one cent or one hundredth of a dollar</td>
<td>1¢ or $0.01 (\frac{1}{100})</td>
</tr>
<tr>
<td></td>
<td>five cents or five hundredths of a dollar</td>
<td>5¢ or $0.05 (\frac{5}{100})</td>
</tr>
<tr>
<td></td>
<td>ten cents or ten hundredths of a dollar</td>
<td>10¢ or $0.10 (\frac{10}{100})</td>
</tr>
<tr>
<td></td>
<td>twenty-five cents or twenty-five hundredths of a dollar</td>
<td>25¢ or $0.25 (\frac{25}{100})</td>
</tr>
<tr>
<td></td>
<td>fifty cents or fifty hundredths of a dollar</td>
<td>50¢ or $0.50 (\frac{50}{100})</td>
</tr>
<tr>
<td></td>
<td>one hundred cents or one hundred hundredths of a dollar</td>
<td>100¢ or $1.00 (\frac{100}{100})</td>
</tr>
</tbody>
</table>

Write a fraction for the part of a dollar the coin represents.

1. _____
2. _____
3. _____

4. Sadie went to the pet store to buy fish food. She spent 4 dimes and 10 pennies. What fraction of a dollar did Sadie spend?
Skills Practice
Decimals and Money

Write the part of the dollar each amount represents.

1. 

2. 

3. 

4. 

Solve.

5. To buy bubbles, Taye needs 75 cents. He has 6 nickels, 2 dimes, and 1 quarter. Does he have enough?

6. Julie spent \( \frac{7}{10} \) of a dollar on a bag of trail mix. If she gave the clerk \( \frac{75}{100} \) of a dollar, how much change did she get back?

7. Brad has 3 dimes and 2 quarters. How much money does he have altogether?

8. Curtis gives \( \frac{1}{2} \) of all of the money he earns to his parents. If he earns $50, how much will he give his parents?
Write the part of a dollar each amount represents.

1.  

2.  

3.  

4. Fatou has 5 dimes and 2 quarters. How much money does she have altogether?

Write each fraction as a decimal.

5. \( \frac{7}{10} \)  

6. \( \frac{3}{10} \)  

7. \( \frac{92}{100} \)

Write each decimal as a fraction.

8. 0.4  

9. 0.6  

10. 0.65
Solve.

1. A store sells a card for 89¢. What part of a dollar is 89¢?

2. Clara has two dimes, a nickel, and four pennies in her pocket. What part of a dollar is the money she has in her pocket?

3. Joan wants to buy a toy for a dollar. She has 1 quarter, two nickels, and a dime. What part of a dollar does she need to buy the toy?

4. Mr. Brown bought a hammer for $5.75. He gave the cashier $6. What part of a dollar did Mr. Brown receive in change?

5. Tom buys a book that costs $4.37 and a bookmark that costs $0.75. He gives the cashier a $5-bill and a $1-bill. What part of a dollar does he receive in change?

6. Sue puts $\frac{1}{4}$ of every dollar she earns in a jar. If she earns $8, how much money will she save?

7. Judy spent $\frac{6}{10}$ of a dollar on a bottle of juice. She gave the cashier $\frac{3}{4}$ of a dollar. How much money did she receive in change?

8. Carlos spent $\frac{1}{10}$ of a dollar on a pencil, $\frac{15}{100}$ of a dollar on a pen, and $\frac{1}{4}$ of a dollar on notebook. He gave the cashier $1. How much change did he receive?
Our money system is based on the decimal system. The whole numbers are on the left side of the decimal. The tenths and hundredths are on the right.

Match the decimal values with the monetary values below. Write the money value under each picture.

<table>
<thead>
<tr>
<th>5.34</th>
<th>1.48</th>
<th>2.28</th>
<th>1.11</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.29</td>
<td>1.03</td>
<td>3.04</td>
<td>0.85</td>
</tr>
</tbody>
</table>

1. __________
2. __________
3. __________
4. __________
5. __________
6. __________
7. __________
8. __________
Choose a strategy

Antonio picked 24 apples to make applesauce. It will take 12 apples for each batch of sauce. How many batches of sauce can Antonio make?

**Step 1**
Understand

Be sure you understand the problem.
What do you know?

- Antonio picked _____ apples.
- It will take _____ apples to make a batch of applesauce.
- You need to find how many batches of _____ Antonio can make.

**Step 2**
Plan

Make a plan.
Choose a strategy.

You can draw a picture. Decide what facts you know. Plan what you will do and in what order. Use your plan to solve the problem. Then check your solution to make sure it makes sense.
### Reteach

**Problem-Solving Investigation** (continued)

<table>
<thead>
<tr>
<th>Step 3</th>
<th>Solve</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Carry out your plan.</strong></td>
<td></td>
</tr>
<tr>
<td>You know that you need to find out how many batches of applesauce Antonio can make with 24 apples.</td>
<td></td>
</tr>
<tr>
<td>Draw 24 circles to represent the apples. Circle groups of 12. Write a division sentence.</td>
<td></td>
</tr>
<tr>
<td>( 24 \div 12 = )</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 4</th>
<th>Check</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Is the solution reasonable?</strong></td>
<td></td>
</tr>
<tr>
<td>Reread the problem.</td>
<td></td>
</tr>
<tr>
<td>How can you check your answer?</td>
<td></td>
</tr>
</tbody>
</table>

**Use any strategy shown below to solve.**

- Guess and Check
- Draw a picture
- Work a simpler problem
- Act it out
- Make an organized list

1. Carolina has 25 peanuts and she wants to share them. If she and each of her friends get the same amount of peanuts, how many will each one get?

2. Becky went to the park with 6 friends. Two of them left early and 1 got hurt. How many are left to play with Becky?
13–5

Skills Practice

Problem-Solving Investigation

Use any strategy to solve.

1. Dinah and Trey each have some money. The sum of their money is 78¢. The difference is 6¢. Dinah has more money than Trey. How much money do they each have?

2. Julie, Shawna, and Matt are in the lunch line. Julie is not first. Matt is behind Julie. What order are they standing in line? List their names from first to last.

3. The cashier gave Jaime $0.48 in change. Jaime bought shampoo and toothpaste. The shampoo cost $3.63. Jaime gave the cashier one $5-bill and two $1-bills. How much did the toothpaste cost?

4. Katie went to lunch at 11:30. Before lunch, she had Math class for one hour. She went to Music class for 45 minutes before Math class. What time did Katie start Music class?

5. Don can order a small, medium, or large juice. He can order orange juice or apple juice. How many possible drink combinations can he order?

6. Paula has $\frac{1}{4}$ of a dollar. Rick has $\frac{8}{10}$ of a dollar. Bonnie has 5 nickels. If they combine their money, do they have enough to buy a game that costs $1.50? Explain.
Homework Practice

Problem-Solving Investigation

Use any strategy shown below to solve. Tell what strategy you used.

Problem-Solving Strategies

- Guess and Check
- Draw a picture
- Work a simpler problem
- Act it out
- Make an organized list

1. There are 15 children on the playground at recess. If 3 are on the swing set and 4 are on the monkey bars, how many are left to play ball?

2. You are having a fence built around your pool. How many feet of the fence will be needed?

3. Danielle has five coins. The total of her coins is $0.51 cents. If she has 1 penny, 1 nickel, and 1 quarter, how many dimes does she have?

4. Louis spent 0.6 of his piggy bank on a gift. How much of his bank does he have left?

Spiral Review

Write each fraction as a decimal. (Lesson 13–2)

5. \( \frac{3}{10} \) \hspace{1cm} 6. \( \frac{2}{10} \) \hspace{1cm} 7. \( \frac{65}{100} \)

Write each decimal as a fraction.

8. 0.8 \hspace{1cm} 9. 0.9 \hspace{1cm} 10. 0.49
Read what each person says. Then find the book or hobby kit that each person bought.

1. “I gave the cashier $10.00. I got back one one-hundredth of a dollar in change. What did I buy?”

2. “I gave the cashier two $5 bills. I got back a one-dollar bill, a quarter, and forty hundredths of a dollar in change. What did I buy?”

3. “I gave the cashier nine $1 bills. I got back five coins in change. Four were dimes and one was worth five one-hundredths of a dollar. What did I buy?”

4. “I gave the cashier five $1 bills and a $5 bill. I got back 8 coins in change. Two of the coins were dimes, 4 were pennies, and two were quarters. What did I buy?”

5. “I gave the cashier a $5 bill and 12 quarters. The cashier handed back 8 of my quarters plus a nickel. What did I buy?”

6. “I was the last person to purchase something. I gave the cashier a $10.00. What did I buy and how much change did I get back?”
# Individual Progress Checklist

<table>
<thead>
<tr>
<th>B</th>
<th>D</th>
<th>M</th>
<th><strong>Goal</strong></th>
<th><strong>Progress</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>understand tenths and hundredths</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>relate fractions and decimals to money</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>solve problems by acting it out</td>
<td></td>
</tr>
</tbody>
</table>

## Notes

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---
Write a fraction for the part that is shaded.

1. 

2. 

3. 

4. Janet is completing a task. The task has 7 steps. She has done three of the steps. What fraction of the task has she completed?

Write each fraction using numbers.

5. two-thirds

6. seven-tenths

How much is each coin worth?

7. 

8. 

9. David bought a book. He received one dime in change. How much money is a dime?
Write as a decimal or a fraction.

1. 0.8
2. \( \frac{71}{100} \)
3. 0.9
4. \( \frac{3}{10} \)
5. 0.2
6. \( \frac{22}{100} \)
7. 0.58
8. \( \frac{1}{100} \)

Name the amount of money in decimals.

9. 5 dimes, 2 nickels and 4 pennies
10. 3 quarters, 3 dimes and 1 nickel
11. 7 nickels, 2 dimes and 3 pennies

Solve by addition or subtraction.

12. $3.35 + $5.78 = $9.13
13. $1.79 - $0.65 = $1.14
14. $15.75 + $1.23 = $17.00
15. $31.05 - $7.19 = $23.86
16. $0.56 + $8.04 = $8.60
Write each fraction as a decimal.

1. \( \frac{4}{10} \)
2. \( \frac{8}{10} \)
3. \( \frac{5}{10} \)

Write each decimal as a fraction.

4. 0.2
5. 0.4
6. 0.7

Solve. Write a decimal for each answer.

7. There are seven-tenths of a pizza left. What is the decimal for that amount?
8. If you have 0.8 of your grapes left, what amount did you already eat?
9. Stacey ate 0.6 of her apple. How much does she have left?
10. Jorge gave his brother \( \frac{4}{10} \) of his cars. How many does he have left for himself?
Write each fraction as a decimal.

1. \( \frac{38}{100} \)
2. \( \frac{45}{100} \)
3. \( \frac{57}{100} \)

Write each decimal as a fraction.

4. 0.56
5. 0.39
6. 0.60

Solve. Write each answer as a decimal.

7. There are sixty-four hundredths of a box of cereal. What is the decimal for that amount?

8. If you have \( \frac{45}{100} \) of your orange left, what amount did you already eat?

9. Emma spent 3 quarters and 2 dimes. How much did she spend?
Quiz 3 (Lessons 13–4 through 13–5)

Write the part of the dollar each amount represents.

1. 

2. 

3. 

4. 

5. 

6. 

7. Richard spent \( \frac{8}{10} \) of a dollar on a can of juice. If he gave the clerk a dollar, how much change did he get back?

7. \[ \underline{} \]
1. Put the decimals and fractions in order from least to greatest.
   A. 0.15   B. 0.55
   C. 0.6     D. 0.9

2. If your family ate 64 pieces of the bologna and there are 100 pieces in the pack, how much do you have left?
   F. 64 pieces   G. 36 pieces
   H. 24 pieces   J. 73 pieces

3. Your school has 94 students in it. If the maximum capacity is 100 students, how many spaces do you have left for new students?
   A. 96 students   B. 6 students
   C. 4 students    D. 3 students

4. Which is the correct way to write \( \frac{56}{100} \) in decimal form?
   F. 0.056   G. 0.6
   H. 0.56     J. 1.56

5. If you washed 76 cars in your school’s car wash fundraiser and your goal is 100 cars, how many do you have left to wash written in a decimal form?
   A. 0.24   B. 0.34
   C. 1.00    D. 0.14

Draw your own decimal out of 100. Shade part of it and write the decimal.

6. \[ \text{Decimal} \]
Using the word bank below, complete each sentence by writing the correct word or words in the blank.

Vocabulary Test

decimal
decimal point
tenth
hundredth
fraction
addition
subtraction

1. ______ is an operation on two or more addends that is equal to a sum.

2. A ______ is one of ten equal parts or \( \frac{1}{10} \).

3. A ______ is a number that represents part of a whole or part of a set.

4. A ______ is a number with one or more digits to the right of the decimal point.

5. A ______ is a place value position. One of one hundred equal parts.

6. A ______ is a period separating the ones and the tenths in a number.

7. ______ is an operation that tells the difference, when some or all are taken away.
Use construction paper to draw a loaf of bread with 8 individual slices. On a separate piece of paper, draw a plate. Cut out each individual slice of bread and the plate. Then place the loaf of bread on a plate.

Read each question aloud to the student. Then write the student’s answers on the lines below the question.

1. Take 2 slices of bread away. How many pieces are left?

2. What fraction represents how many pieces of bread were taken away?

3. What is the decimal form of that fraction?

4. Tell how you got your answer.

5. Take 5 slices of bread away from the full loaf. How many pieces are left?

6. What fraction represents how many pieces of bread were taken away?
7. Explain your answer.

8. Kelly counts 100 vehicles in a parking lot. What decimal represents the amount of mini-vans?

<table>
<thead>
<tr>
<th>Parking Lot Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>cars</td>
</tr>
<tr>
<td>mini-vans</td>
</tr>
<tr>
<td>trucks</td>
</tr>
</tbody>
</table>

9. What is the fraction form for that decimal?

10. What decimal represents the amount of trucks?

11. What is the fraction form for that decimal?

12. Tell how you got your answer.

13. What decimal represents that amount of cars?

14. What is the fraction form for that decimal?
# Chapter Project Rubric

<table>
<thead>
<tr>
<th>Score</th>
<th>Explanation</th>
</tr>
</thead>
</table>
| 3     | Student successfully completed the chapter project.  
       | Student demonstrated appropriate use of chapter information in completing the chapter project. |
| 2     | Student completed the chapter project with partial success.  
       | Student partially demonstrated appropriate use of chapter information in completing the chapter project. |
| 1     | Student did not complete the chapter project or completed it with little success.  
       | Student demonstrated very little appropriate use of chapter information in completing the chapter project. |
| 0     | Student did not complete the chapter project.  
       | Student demonstrated inappropriate use of chapter information in completing the chapter project. |
## Foldables Rubric

### Four-Door Book Foldables

**Fractions and Decimals**

<table>
<thead>
<tr>
<th>Score</th>
<th>Explanation</th>
</tr>
</thead>
</table>
| 3     | Student properly assembled Foldables graphic organizer according to instructions.  
       | Student recorded information related to the chapter in the manner directed by the Foldables graphic organizer.  
       | Student used the Foldables graphic organizer as a study guide and organizational tool. |
| 2     | Student exhibited partial understanding of proper Foldables graphic organizer assembly.  
       | Student recorded most but not all information related to the chapter in the manner directed by the Foldables graphic organizer.  
       | Student demonstrated partial use of the Foldables graphic organizer as a study guide and organizational tool. |
| 1     | Student showed little understanding of proper Foldables graphic organizer assembly.  
       | Student recorded only some information related to the chapter in the manner directed by the Foldables graphic organizer.  
       | Student demonstrated little use of the Foldables graphic organizer as a study guide and organizational tool. |
| 0     | Student did not assemble Foldables graphic organizer according to instructions.  
       | Student recorded little or no information related to the chapter in the manner directed by the Foldables graphic organizer.  
       | Student did not use the Foldables graphic organizer as a study guide and organizational tool. |
Read each question carefully. Write your answer on the line provided.

1. Which decimal tells how much is shaded?
   - A. 0.1
   - B. 0.2
   - C. 0.3
   - D. 3.0

2. Which fraction tells how much is shaded?
   - F. $\frac{3}{10}$
   - G. $\frac{4}{10}$
   - H. $\frac{34}{100}$
   - J. $\frac{3}{40}$

Write each fraction as a decimal.

3. $\frac{7}{10}$
   - A. 0.07
   - B. 0.7
   - C. 0.77
   - D. 7.0

4. $\frac{30}{100}$
   - F. 0.30
   - G. 0.33
   - H. 3.0
   - J. 30.0

5. $\frac{10}{100}$
   - A. 10.0
   - B. 1.0
   - C. 0.11
   - D. 0.10

6. $\frac{9}{10}$
   - F. 0.09
   - G. 0.9
   - H. 0.99
   - J. 9.0

Write each decimal as a fraction.

7. 0.8
   - A. $\frac{10}{8}$
   - B. $\frac{80}{10}$
   - C. $\frac{8}{100}$
   - D. $\frac{8}{10}$

8. 0.45
   - F. $\frac{54}{100}$
   - G. $\frac{5}{10}$
   - H. $\frac{45}{100}$
   - J. $\frac{45}{10}$

9. 0.03
   - A. $\frac{3}{100}$
   - B. $\frac{3}{10}$
   - C. $\frac{30}{100}$
   - D. $\frac{3}{1,000}$
Write the part of a dollar represented.

10.  
   F. $\frac{3}{100}$  G. $\frac{3}{10}$  H. $\frac{1}{4}$  J. $\frac{1}{3}$  
   10. _____

11.  
   A. $0.20$  B. $0.22$  C. $2.00$  D. $20.00$  
   11. _____

12.  
   F. $\frac{1}{4}$  G. $\frac{1}{2}$  H. $\frac{3}{5}$  J. $\frac{3}{4}$  
   12. _____

Use the table for problems 13 through 15.

<table>
<thead>
<tr>
<th>Animal Park</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults</td>
<td>$5.25</td>
</tr>
<tr>
<td>Children</td>
<td>$3.95</td>
</tr>
<tr>
<td>Senior Citizens</td>
<td>$3.75</td>
</tr>
<tr>
<td>Parking</td>
<td>$2.25</td>
</tr>
</tbody>
</table>

13. A family of four wants to go to the Animal Park. There are 2 adults and 2 children in the family, and they will need to park their car. How much will the family spend on admission and parking?

14. How much more does an adult’s ticket cost than a child’s ticket?
   F. $1.30  G. $1.70  H. $2.30  J. $2.70  14. _____

15. Two senior citizens go to the Animal Park. They pay with a $10.00 bill. What is their change?
   A. $7.50  B. $6.25  C. $3.50  D. $2.50  15. _____
Read each question carefully. Write your answer on the line provided.

1. Which decimal tells how much is shaded?
   A. 8.0   B. 0.7   C. 0.8   D. 0.9

2. Which fraction tells how much is shaded?
   F. \( \frac{25}{10} \)   G. \( \frac{26}{100} \)   H. \( \frac{25}{100} \)   J. \( \frac{35}{100} \)

Write each fraction as a decimal.

3. \( \frac{6}{10} \)
   A. 0.06   B. 0.6   C. 0.66   D. 6.0

4. \( \frac{2}{10} \)
   F. 0.02   G. 0.2   H. 0.22   J. 2.0

5. \( \frac{61}{100} \)
   A. 0.61   B. 0.16   C. 6.1   D. 61.0

6. \( \frac{70}{100} \)
   F. 0.70   G. 0.77   H. 7.0   J. 70.0

Write each decimal as a fraction.

7. 0.01
   A. \( \frac{1}{100} \)   B. \( \frac{1}{10} \)   C. \( \frac{10}{100} \)   D. \( \frac{1}{1,000} \)

8. 0.28
   F. \( \frac{82}{100} \)   G. \( \frac{2}{10} \)   H. \( \frac{28}{100} \)   J. \( \frac{28}{10} \)

9. 0.3
   A. \( \frac{10}{3} \)   B. \( \frac{30}{10} \)   C. \( \frac{3}{100} \)   D. \( \frac{3}{10} \)
Write the part of a dollar represented.

10.  
   F. $\frac{1}{10}$  
   G. $\frac{1}{5}$  
   H. $\frac{1}{4}$  
   J. $\frac{1}{3}$  

11.  
   A. $0.03$  
   B. $0.30$  
   C. $0.33$  
   D. $3.00$  

12.  
   F. $\frac{55}{100}$  
   G. $\frac{3}{5}$  
   H. $\frac{1}{2}$  
   J. $\frac{6}{10}$  

Use the table for problems 13 through 15.

<table>
<thead>
<tr>
<th>Art Supplies</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color Paper</td>
<td>$3.95</td>
</tr>
<tr>
<td>Pack of Markers</td>
<td>$1.69</td>
</tr>
<tr>
<td>Jar of Glue</td>
<td>$0.75</td>
</tr>
<tr>
<td>Tube of Glitter</td>
<td>$0.50</td>
</tr>
</tbody>
</table>

13. Jan bought a pack of color paper, a tube of glitter, and a jar of glue. How much did she spend?  
   A. $4.20  
   B. $4.70  
   C. $5.20  
   D. $5.25  

14. Carlos buys a pack of markers and a jar of glue. He gives the clerk $5.00. What is his change?  
   F. $3.56  
   G. $2.56  
   H. $2.44  
   J. $1.66  

15. Dan has $3.00. He wants to buy 2 packs of markers. How much more money does he need to buy them?  
   A. $3.38  
   B. $2.28  
   C. $0.72  
   D. $0.38  

Read each question carefully. Write your answer on the line provided.

Write as a decimal.

1. \( \frac{6}{10} \)
   - A. 0.06
   - B. 0.6
   - C. 0.66

2. \( \frac{2}{10} \)
   - F. 0.02
   - G. 0.2
   - H. 2.0

3. \( \frac{61}{100} \)
   - A. 0.61
   - B. 0.16
   - C. 61.0

4. \( \frac{70}{100} \)
   - F. 0.70
   - G. 7.0
   - H. 70.0

Solve.

5. Which decimal tells how much is shaded?
   - A. 0.7
   - B. 0.8
   - C. 0.9

6. Which fraction tells how much is shaded?
   - F. \( \frac{20}{10} \)
   - G. \( \frac{26}{100} \)
   - H. \( \frac{25}{100} \)
Chapter Test, Form 2B  (continued)

Write as a fraction.

7. 0.01
   A. \(\frac{1}{100}\)   B. \(\frac{1}{10}\)   C. \(\frac{10}{100}\)  7. _____

8. 0.28
   F. \(\frac{82}{100}\)   G. \(\frac{2}{10}\)   H. \(\frac{28}{100}\)  8. _____

9. 0.3
   A. \(\frac{30}{10}\)   B. \(\frac{3}{100}\)   C. \(\frac{3}{10}\)  9. _____

Write the part of a dollar shown.

10. [Image of coins]
    F. \(\frac{3}{5}\)   G. \(\frac{1}{2}\)   H. \(\frac{6}{10}\)  10. _____

11. [Image of coins]
    A. $0.03   B. $0.30   C. $0.33  11. _____

12. [Image of coins]
    F. \(\frac{1}{5}\)   G. \(\frac{1}{4}\)   H. \(\frac{1}{3}\)  12. _____

13. Tom is putting together a 100-piece puzzle. On Monday he put together 23 pieces. On Tuesday he put together 61 pieces. What part of the puzzle does Tom have left to do?
    A. \(\frac{84}{100}\)   B. \(\frac{26}{100}\)   C. \(\frac{16}{100}\)  13. _____
Read each question carefully. Write your answer on the line provided.

1. Write a decimal to tell how much is shaded.

![Shaded Grid]

2. Write a fraction to tell how much is shaded.

![Shaded Grid]

Write each decimal as a fraction.

3. 0.01
4. 0.3
5. 0.28

Write each fraction as a decimal.

6. \(\frac{70}{100}\)
7. \(\frac{6}{10}\)
8. \(\frac{61}{100}\)
9. \(\frac{2}{10}\)

Name the amount of money. Use a decimal.

10. [Coin Image]
Write the part of a dollar represented as a fraction.

11. $0.01

12. $0.05

Solve by addition.

13. $2.05 + 8.36

14. $2.76 + 7.46

Solve by subtraction.

15. $5.02 - 2.43

16. $3.54 - 0.69

17. Takeo is putting together a 100-piece puzzle. On Monday he puts together 23 pieces. On Tuesday he puts together 61 pieces. What fraction of the puzzle does Takeo have left to do?

18. Use the table for problems 18 through 20.

<table>
<thead>
<tr>
<th>Art Supplies</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$3.95</td>
<td>Color Paper</td>
</tr>
<tr>
<td>$1.69</td>
<td>Pack of Markers</td>
</tr>
<tr>
<td>$0.75</td>
<td>Jar of Glue</td>
</tr>
<tr>
<td>$0.50</td>
<td>Tube of Glitter</td>
</tr>
</tbody>
</table>

18. Carlos buys a pack of markers and a jar of glue. He gives the clerk $5.00. What is his change?

19. Jan bought a pack of color paper, a tube of glitter, and a jar of glue. How much did she spend?

20. Dan has $3.00. He wants to buy 2 packs of markers. How much more money does he need to buy them?
Read each question carefully. Write your answer on the line provided.

1. Tell how much is shaded. Write your answer as a decimal.

2. Tell how much is shaded. Write your answer as a decimal.

Write as a fraction.

3. 0.28
4. 0.3
5. 0.01

Write as a decimal.

6. \( \frac{6}{10} \)
7. \( \frac{2}{10} \)
8. \( \frac{70}{100} \)
9. \( \frac{61}{100} \)

Add.

10. \( \$2.05 + 8.36 \)
11. \( \$2.76 + 7.46 \)

Subtract.

12. \( \$5.02 - 2.43 \)
13. \( \$3.54 - 0.69 \)

Tell the amount of money. Use a decimal.

14. _______
Tell the part of a dollar shown. Use a fraction.

15.  

16.  

17. Takeo is putting together a 100-piece puzzle. On Monday he puts together 23 pieces. On Tuesday he puts together 61 pieces. What fraction of the puzzle does Takeo have left to do?

17.  

Use the table for problems 18–20.

<table>
<thead>
<tr>
<th>Art Supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td>$3.95</td>
</tr>
<tr>
<td>$1.69</td>
</tr>
<tr>
<td>$0.75</td>
</tr>
<tr>
<td>$0.50</td>
</tr>
</tbody>
</table>

18. Jan buys paper, glitter, and glue. How much does she pay?  
18.  

19. Carlos buys markers and glue. He pays $5.00. What is his change?  
19.  

20. Dan has $3.00. He wants to buy 2 packs of markers. How much more money does he need?  
20.  
Read each question carefully. Write your answer on the line provided.

1. Write a decimal to represent the shaded section.

2. Write a fraction to represent the shaded section.

3. Write a decimal that has 4 in the hundredths place.

Convert each fraction to a decimal.

4. \( \frac{7}{10} \)

5. \( \frac{96}{100} \)

6. \( \frac{8}{100} \)

Convert each decimal to a fraction.

7. 0.02

8. 0.9

9. 0.37

10. Odina has six nickels and two pennies. How much money does Odina have? Express your answer as a decimal.

11. Miguel finds two quarters and three dimes under the cushion of his couch. What fraction of a dollar does Miguel find?
12. Adam’s grandmother gave him four nickels and two dimes for helping her clean the garage. What fraction of a dollar did Adam receive?

Solve by addition.

13. $4.19 + 5.04

14. $13.79 + 2.39

Solve by subtraction.

15. $6.70 − 3.69

16. $120.62 − 21.71

17. Lori is reading a 100-page book. On Monday she reads 18 pages. On Tuesday she reads 22 pages, and on Wednesday she reads 3 pages. What fraction of the book does Lori have left to read?
Demonstrate your knowledge by giving a clear, concise solution to each problem. Be sure to include all relevant drawings and justify your answers. You may show your solution in more than one way or investigate beyond the requirements of the problem. If necessary, record your answer on another piece of paper.

1. a. Explain in your own words why our system of money uses two decimal places.
   b. Write five different ways to express the amount of a penny.
   c. Write five different ways to express the amount of a nickel.
   d. Write five different ways to express the amount of a dime.
   e. Write five different ways to express the amount of a quarter.

2. Marly's badminton team has 10 players. Seven of the players are boys.
   a. What part of the team are girls? Write the answer in words, as a fraction, and as a decimal.
   b. If 2 boys left the team and 2 girls joined, what part of the team would be girls? Write the answer in words, as a fraction in simplest form, and as a decimal.

3. Antonia went to the state fair and bought a hat for $5.50 and a t-shirt for $3.25. If she paid the cashier $10.00, did she have enough change to buy arcade tickets for $1.00? If so, how many arcade tickets could she buy? Show each step of your work.

4. What is the Act It Out strategy? Write a sample problem with fractions or decimals and describe how to solve it using the strategy.
Read each question. Then fill in the correct answer.

1. □ □ □ □
2. □ □ □ □
3. □ □ □ □
4. □ □ □ □
5. □ □ □ □
6. □ □ □ □
7. □ □ □ □
8. □ □ □ □
9. □ □ □ □
10. □ □ □ □
Test Example

Jamie owns a small book of photographs. Of the 10 photographs, 6 are in black and white. Which decimal shows the number of black and white photos in the book?

A. 0.06  B. 0.66  C. 0.6  D. 6.0

Read the Question

You need to find the decimal for 6 out of 10 photographs.

Solve the Question

Write 6 out of 10 as a fraction.

\[\frac{6}{10}\]

Write the fraction as a decimal.

\[\frac{6}{10} = 0.60 \text{ or } 0.6\]

So, 0.6 of the photographs are black and white.

The answer is C.

Choose the best answer.

1. What decimal does the model show?

   \[
   \begin{array}{ccc}
   & & \\
   & & \\
   & & \\
   \end{array}
   \]

   A. 4  B. 0.44  C. 0.4  D. 0.04

2. Which fraction relates to 0.75?

   F. \(\frac{5}{7}\)  G. \(\frac{3}{4}\)  H. \(\frac{3}{5}\)  J. \(\frac{7}{100}\)

3. How do you write thirty-eight hundredths as a decimal?

   A. 3,800  B. 38  C. 0.38  D. 0.038
4. Jess placed his money shown below on the table.

How much money does Jess have?
F. $.41  G. $.70  H. $.65  J. $.60

4. _____

5. Anish bought a pencil for $0.26, a pen for $0.73, and an eraser for $0.48. He gave the clerk a $5 bill. How much change will Anish receive?
A. $1.47  B. $3.53  C. $4.14  D. $4.63

5. _____

6. Which shows \( \frac{7}{100} \) as a decimal?
F. 700  G. 0.7  H. 0.07  J. 0.007

6. _____

7. Which fraction equals \( \frac{2}{5} \)?

A. \( \frac{5}{10} \)  B. \( \frac{3}{4} \)  C. \( \frac{4}{20} \)  D. \( \frac{4}{10} \)

7. _____

8. Write a fraction that equals 0.5.

8. _____

9. How do you write forty-nine hundredths as a decimal?

9. _____

10. Adam placed his money, shown below, on the table.

How much money does he have?

10. _____
11. Helen bought a banana for $0.24, a granola bar for $0.78, and a juice box for $0.89. She gives the clerk a $5 bill. How much change will she receive?

12. Which shows \( \frac{3}{100} \) as a decimal?

13. Write a fraction that equals \( \frac{1}{3} \).

14. Which of the following objects most closely resembles a circle: a quarter, a $5 bill, a movie ticket, a postage stamp?

15. Write a number sentence that relates to \( 24 \div 6 = 4 \).

16. Last year the ballpark had ticket sales of $246,662. For the two months, tickets sales were $186,777. How much more in ticket sales does the ballpark need to make by the end of the season?
## Chapter 13 Assessment Answer Key

**Page 57, Extended-Response Test**

### Scoring Rubric

<table>
<thead>
<tr>
<th>Score</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>The student demonstrates a <strong>thorough understanding</strong> of the mathematics concepts and/or procedures embodied in the task. The student has responded correctly to the task, used mathematically sound procedures, and provided clear and complete explanations and interpretations. The response may contain minor flaws that do not detract from the demonstration of a thorough understanding.</td>
</tr>
<tr>
<td>3</td>
<td>The student demonstrates an <strong>understanding</strong> of the mathematics concepts and/or procedures embodied in the task. The student’s response to the task is essentially correct with the mathematical procedures used and the explanations and interpretations provided demonstrating an essential but less than thorough understanding. The response may contain minor errors that reflect inattentive execution of the mathematical procedures or indications of some misunderstanding of the underlying mathematics concepts and/or procedures.</td>
</tr>
<tr>
<td>2</td>
<td>The student has demonstrated only a <strong>partial understanding</strong> of the mathematics concepts and/or procedures embodied in the task. Although the student may have used the correct approach to obtaining a solution or may have provided a correct solution, the student’s work lacks an essential understanding of the underlying mathematical concepts. The response contains errors related to misunderstanding important aspects of the task, misuse of mathematical procedures, or faulty interpretations of results.</td>
</tr>
<tr>
<td>1</td>
<td>The student has demonstrated a <strong>very limited understanding</strong> of the mathematics concepts and/or procedures embodied in the task. The student’s response to the task is incomplete and exhibits many flaws. Although the student has addressed some of the conditions of the task, the student reached an inadequate conclusion and/or provided reasoning that was faulty or incomplete. The response exhibits many errors or may be incomplete.</td>
</tr>
<tr>
<td>0</td>
<td>The student has provided a <strong>completely incorrect</strong> solution or uninterpretable response, or no response at all.</td>
</tr>
</tbody>
</table>
In addition to the scoring rubric found on page A1, the following sample answers may be used as guidance in evaluating open-ended assessment items.

1. a. We have two decimal places because the smallest form of money we use is cents, and cents are hundredths.
   
   b. The amount of a penny can be expressed as one cent, one hundredth of a dollar, 1¢, $0.01, and \( \frac{1}{100} \).
   
   c. The amount of a nickel can be expressed as five cents, five hundredths of a dollar, 5¢, $0.05, and \( \frac{5}{100} \).
   
   d. The amount of a dime can be expressed as ten cents, ten hundredths of a dollar, 10¢, $0.10, and \( \frac{10}{100} \).
   
   e. The amount of a quarter can be expressed as twenty-five cents, twenty-five hundredths of a dollar, 25¢, $0.25, and \( \frac{25}{100} \).

2. a. To find the number of girls on the team, subtract the number of boys from the number of players. Since \( 10 - 7 = 3 \), then 3 of the 10 players are girls, or \( \frac{3}{10} \) of the team are girls, or 0.7 of the team are girls.
   
   b. If 2 boys left the team and 2 girls joined, there would be 5 boys and 5 girls on the team, since \( 7 - 2 = 5 \) and \( 3 + 2 = 5 \). So, 5 of the 10 players are girls, or \( \frac{1}{2} \) of the team are girls, or 0.5 of the team are girls.

3. First, add the cost of the hat and t-shirt: \( $5.50 + $3.25 = $8.75 \). Then, subtract the cost of the hat and t-shirt from the amount Antonia paid the cashier: \( $10.00 - $8.75 = $1.25 \). Finally, compare the change Antonia received from the cashier to the price of an arcade ticket: \( $1.25 > $1.00 \). So, yes, Antonia had enough change to buy one arcade ticket.

4. The Act It Out strategy is a way to solve a problem using methods such as words, numbers, symbols, charts, graphs, tables, diagrams, and models to find the answer.
Answers

Answer (Graphic Organizer and Anticipation Guide)

Grade 3

Chapter 13

Anticipation Guide

Fractions and Decimals

**Step 1** Before you begin Chapter 13

- Read each statement.
- Decide whether you agree (A) or disagree (D) with the statement.
- Write A or D in the first column OR if you are not sure whether you agree or disagree, write NS (not sure).

**Step 2** After you complete Chapter 13

- Reread each statement and complete the last column by entering an A (agree) or a D (disagree).
- Did any of your opinions about the statements change from the first column?
- For those statements that you mark with a D, use a separate sheet of paper to explain why you disagree. Use examples, if possible.

<table>
<thead>
<tr>
<th>Decimal</th>
<th>Fraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.10</td>
<td>1/10</td>
</tr>
<tr>
<td>0.4</td>
<td>4/10</td>
</tr>
<tr>
<td>0.60</td>
<td>6/10</td>
</tr>
<tr>
<td>0.65</td>
<td>65/100</td>
</tr>
<tr>
<td>0.99</td>
<td>99/100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statement</th>
<th>A or D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A decimal is a number with one or more digits to the right of the decimal point.</td>
<td>A</td>
</tr>
<tr>
<td>2. A decimal point is a period separating the ones and the tenths in a number.</td>
<td>A</td>
</tr>
<tr>
<td>3. A tenth is one of one hundred equal parts.</td>
<td>D</td>
</tr>
<tr>
<td>4. A hundredth is one of ten equal parts.</td>
<td>D</td>
</tr>
<tr>
<td>5. A fraction is a number that represents part of a whole or part of a set.</td>
<td>A</td>
</tr>
<tr>
<td>6. Addition is an operation on two or more addends that is equal to a sum.</td>
<td>A</td>
</tr>
<tr>
<td>7. Subtraction is an operation that tells the difference, when some or all are taken away.</td>
<td>A</td>
</tr>
<tr>
<td>8. 5 + 5 = 10 is an example of addition.</td>
<td>A</td>
</tr>
<tr>
<td>9. 19 – 8 = 11 is an example of subtraction.</td>
<td>A</td>
</tr>
<tr>
<td>10. Addition and subtraction both involve taking numbers away.</td>
<td>D</td>
</tr>
</tbody>
</table>
Skills Practice

**Tenths**

Write a decimal for each.

1. \(0.3\)
2. \(0.8\)
3. \(0.3\)
4. \(0.4\)
5. \(0.5\)
6. \(0.1\)
7. \(0.9\)
8. \(0.4\)
9. \(0.2\)
10. \(0.6\)
11. \(0.8\)
12. \(0.7\)

13. six tenths \(0.6\)
14. eight tenths \(0.8\)
15. three tenths \(0.3\)
16. nine tenths \(0.9\)
17. two tenths \(0.2\)
18. one tenth \(0.1\)
19. five tenths \(0.5\)
20. seven tenths \(0.7\)

Solve.

21. There are 10 children at the Sunnyside Preschool. Seven children are younger than 4 years old. Write a fraction and a decimal for the number of children who are younger than 4 years old.

\[\frac{7}{10} \quad 0.7 \text{ younger than 4}\]

22. There are 10 third grade students near the swings. Six of the students are girls. Write a fraction and a decimal for the number of girls.

\[\frac{6}{10} \quad 0.6\]
Problem-Solving Practice

Tenths

Solve.

1. Kosey was one of 10 players on his team. If there are 4 girls, write the number of girls in decimal form. Write the number of boys on the team in a fraction form.

\[ \frac{6}{10} \]

2. There are 10 cats in the shelter. Three cats are black, 1 is white, and 6 are tabbies. How many cats are tabbies out of the ten? Write your answer in a decimal form.

\[ 0.6 \]

3. You ate 0.8 of your french fries. How many do you have left? Write your answer as a fraction.

\[ \frac{2}{10} \]

4. Akira has 6 toy cars. His friend, Masao has 4 toy cars. What is the fraction of toys that Akira had out of the 10 toys they had altogether?

\[ \frac{6}{10} \]

5. Your pizza has ten pieces altogether and you ate two pieces. How many pieces do you have left? Write a fraction.

\[ \frac{8}{10} \]

6. If you saw 4 red birds and 6 blue birds, what part of the birds were red? Write your answer as a decimal.

\[ 0.4 \]

7. Out of her 10 toes, your sister painted 0.5 of her toes red and 0.5 of them white. How many were red out of the 10?

\[ 5 \text{ toes} \]

8. You have 4 pairs of sneakers and 6 pairs of other shoes, including 2 pairs of dress shoes. How many sneakers do you have out of all the shoes? Write the number of sneakers in decimal form and as a fraction.

\[ \frac{4}{10} \]

\[ 0.4 \]
13–1 Enrich
Learning About Tenths

Fill in the blanks in the chart below.

<table>
<thead>
<tr>
<th>Fraction</th>
<th>Decimal</th>
<th>Model</th>
<th>Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. a. (\frac{3}{10})</td>
<td>b. 0.3</td>
<td>c. [Model of 3 tenths]</td>
<td>d. three tenths</td>
</tr>
<tr>
<td>2. a. (\frac{6}{10})</td>
<td>b. 0.6</td>
<td>c. [Model of 6 tenths]</td>
<td>d. six tenths</td>
</tr>
<tr>
<td>3. a. (\frac{8}{10})</td>
<td>b. 0.8</td>
<td>c. [Model of 8 tenths]</td>
<td>d. eight tenths</td>
</tr>
<tr>
<td>4. a. (\frac{2}{10})</td>
<td>b. 0.2</td>
<td>c. [Model of 2 tenths]</td>
<td>d. two tenths</td>
</tr>
<tr>
<td>5. a. (\frac{9}{10})</td>
<td>b. 0.9</td>
<td>c. [Model of 9 tenths]</td>
<td>d. nine tenths</td>
</tr>
<tr>
<td>6. a. (\frac{1}{10})</td>
<td>b. 0.1</td>
<td>c. [Model of 1 tenth]</td>
<td>d. one tenth</td>
</tr>
<tr>
<td>7. a. (\frac{4}{10})</td>
<td>b. 0.4</td>
<td>c. [Model of 4 tenths]</td>
<td>d. four tenths</td>
</tr>
<tr>
<td>8. a. (\frac{5}{10})</td>
<td>b. 0.5</td>
<td>c. [Model of 5 tenths]</td>
<td>d. five tenths</td>
</tr>
<tr>
<td>9. a. (\frac{7}{10})</td>
<td>b. 0.7</td>
<td>c. [Model of 7 tenths]</td>
<td>d. seven tenths</td>
</tr>
</tbody>
</table>

Complete the number line. The pattern is fraction, decimal, then words.

10. \(\frac{1}{10}\) = 0.2 three tenths

11. \(\frac{4}{10}\) = 0.5 six tenths

12. \(\frac{7}{10}\) = 0.8 nine tenths

13. \(\frac{1}{10}\) = 0.1

14. \(\frac{3}{10}\) = 0.3

15. \(\frac{5}{10}\) = 0.5

16. \(\frac{15}{100}\) = 0.15

17. \(\frac{8}{100}\) = 0.08

18. \(\frac{9}{10}\) = 0.9

19. \(\frac{64}{100}\) = 0.64

20. \(\frac{1}{100}\) = 0.01

21. \(\frac{13}{100}\) = 0.13

22. \(\frac{59}{100}\) = 0.59

23. \(\frac{15}{100}\) = 0.15

24. \(\frac{1}{100}\) = 0.01

25. \(\frac{14}{100}\) = 0.14

13–2 Reteach
Hundredths

This model shows 5 tenths shaded.

You can write \(\frac{5}{10}\) as a decimal, 0.5. Read: five tenths

\(\frac{5}{10} = 0.5\)

This model shows 12 hundredths shaded.

\(\frac{12}{100}\) Decimal: 0.12

Read: twelve hundredths

Write each as a decimal.

1. [Model of 8 tenths] = 0.8

2. [Model of 6 tenths] = 0.6

3. [Model of 3 tenths] = 0.3

4. [Model of 7 tenths] = 0.7

5. \(\frac{7}{10}\) = 0.7

6. \(\frac{3}{10}\) = 0.3

7. \(\frac{59}{100}\) = 0.59

8. \(\frac{15}{100}\) = 0.15

9. \(\frac{8}{100}\) = 0.08

10. \(\frac{9}{10}\) = 0.9

11. \(\frac{64}{100}\) = 0.64

12. \(\frac{1}{100}\) = 0.01

13. \(\frac{13}{100}\) = 0.13

14. \(\frac{59}{100}\) = 0.59

15. \(\frac{15}{100}\) = 0.15

16. \(\frac{1}{100}\) = 0.01

17. \(\frac{14}{100}\) = 0.14
Write each as a decimal.

1. \( \frac{2}{5} \) = 0.4
2. \( \frac{1}{10} \) = 0.10
3. \( \frac{3}{10} \) = 0.35
4. \( \frac{7}{100} \) = 0.07
5. \( \frac{6}{10} \) = 0.6
6. \( \frac{2}{10} \) = 0.2
7. \( \frac{3}{10} \) = 0.3
8. \( \frac{6}{10} \) = 0.6
9. \( \frac{17}{100} \) = 0.17
10. \( \frac{35}{100} \) = 0.35
11. \( \frac{7}{100} \) = 0.07
12. \( \frac{5}{100} \) = 0.05

13. nine tenths 0.9
14. sixteen hundredths 0.16
15. three hundredths 0.03
16. nine hundredths 0.09
17. eight hundredths 0.08
18. forty-one hundredths 0.41

For Exercises 19 and 20, write a fraction and a decimal.

19. There are 100 people at the game. Forty-two people are sitting.
   What part of the group of people are not sitting? \( \frac{98}{100} \) 0.98

20. Tim has seen 100 movies. 76 of the movies are comedies.
   What part of the movies are not comedies? \( \frac{24}{100} \) 0.24
Problem-Solving Practice

Hundredths

Solve.

1. Omar had a box of 100 pretzels. If he separated them out for snacks, and he put 10 in a bag, how many pretzels did he use if he made 5 bags? Write your answer as a fraction and a decimal.

\[
\frac{50}{100} = 0.5
\]

2. Order the numbers from least to greatest.

\[
0.65, \frac{4}{100}, 0.89, \frac{89}{100}, 0.42
\]

3. Your puzzle has 100 pieces. You have only 47 pieces left, so what part have you put together out of 100 in a fraction form?

\[
\frac{53}{100}
\]

4. In your novel, you are on page 34 out of 100. What is the decimal and fraction of the part you have left to read?

\[
\frac{66}{100} = 0.66
\]

5. Zina has eaten \(\frac{25}{100}\) of her lunch. What part of the lunch does she have left?

\[
\frac{25}{100}; 0.25
\]

6. A zoo has 100 animals. If there are 40 reptiles, 25 mammals, and 35 birds, how many mammals are there out of the 100? Write your answer as a fraction.

\[
\frac{25}{100}
\]

7. There are 100 toy men in a package. Your friend places 54 pieces on his side, how many pieces do you have?

\[
46 \text{ pieces}
\]

8. You have planted 94 rows out of your 100-row garden. How many rows do you have left to plant?

\[
6 \text{ rows}
\]

Enrich

Space Shuttle

Match the decimals to the word names or fractions below. Write the letters on the line to find the answers to the questions.

1. Who was the first male pilot to fly the Space Shuttle?

\[
\frac{6}{100}, \frac{13}{100}, \frac{38}{100}, \frac{97}{100}
\]

2. Who was the first female pilot to fly the Space Shuttle?

\[
\frac{3}{100}, \frac{13}{100}, \frac{3}{100}, \frac{97}{100}
\]

3. What is the agency that runs the U.S. Space Shuttle Program?

\[
\frac{97}{100}
\]
1. Ed, Marsha, and Gene are playing a game with decimals. Each person has one of the following decimals: 0.5, 0.54, and 0.2. Ed's number is not equivalent to $\frac{5}{10}$ or $\frac{2}{10}$. Marsha's number is greater than Gene's number. What are the numbers of each player?

2. Cathy has 100 marbles. $\frac{28}{100}$ of them are blue. Thirty hundredths of her marbles are green. The rest are red. What decimal represents the number of marbles that are red?
Skills Practice

Problem-Solving Strategy

Solve. Use the act it out strategy.

1. Tickets to the movies cost $8 for adults and $5 for children. How much does a family of 2 adults and 4 children pay for tickets?
   - $36

2. The Sanchez family stops in the grocery store. Juice bottles cost $3. Paper towel rolls cost $2. How much does it cost to buy 2 juice bottles and 3 paper towel rolls?
   - $12

3. There are 100 workers at the Science Center. There are 58 women. What decimal represents the workers who are men?
   - 0.42

4. Lana’s family travels 100 miles to her grandmother’s house. After 40 miles, they stop for lunch. What decimal represents the part of the trip that they have left?
   - 0.60 miles

5. Sue, George, Paul, and Tina are in line for a movie. The first person in line is a boy. George is ahead of Sue, but not ahead of Tina. List the names in order from first to last in line.
   - Paul, Tina, George, Sue

6. Write a problem that you could use the act it out strategy to solve. Share it with others.
   - Answers may vary.

Homework Practice

Problem-Solving Strategy

Solve. Use the act it out strategy.

1. A scuba diver saw many animals on his dive. If you can see 0.5 of the animals in the picture, how many more animals did the diver see? How many total animals did he see?
   - 5 more; 10 total animals

2. A fisherman caught a total of 10 fish in one day. If he ate 0.3 of the fish for breakfast and 0.3 of the fish for lunch, how many fish did he have for dinner?
   - \( \frac{4}{10} \); 0.4 or 4 fish

3. Mai Lin has saved 7 coins. If she needs 10 coins to buy a toy, how many more coins does she need?
   - 3 coins

4. Sunee has 10 stuffed animals. She lent 0.2 of them to one friend. How many of her stuffed animals did she not lend?
   - 8

5. Mini collects bugs. She has 48 bugs altogether. If she can fit 10 bugs in each container, how many containers will she need to house all of her collection?
   - 5 containers

Spiral Review

Write each fraction as a decimal. (Lesson 13–2)

6. \( \frac{6}{100} \) 0.06
7. \( \frac{25}{100} \) 0.25
8. \( \frac{97}{100} \) 0.97

Write each decimal as a fraction.

9. 0.80 \( \frac{80}{100} \)
10. 0.01 \( \frac{1}{100} \)
11. 0.08 \( \frac{8}{100} \)

12. If you eat 0.6 of the pretzels and you had 10 to start with, how many are leftover?
   - 4 pretzels
Grade 3  
Chapter 13

13-3 Name ___________________ Date ___________________  
**Enrich**  
**Money Riddles**

Complete the money chart. Then solve the money riddles.

<table>
<thead>
<tr>
<th>Penny</th>
<th>Nickel</th>
<th>Dime</th>
<th>Quarter</th>
<th>Half-dollar</th>
<th>Dollar</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.01</td>
<td>$0.05</td>
<td>$0.10</td>
<td>$0.25</td>
<td>$0.50</td>
<td>$1.00</td>
</tr>
<tr>
<td>1/100 of a dollar</td>
<td>5/100 of a dollar</td>
<td>10/100 of a dollar</td>
<td>25/100 of a dollar</td>
<td>50/100 of a dollar</td>
<td>100 = 1 dollar</td>
</tr>
</tbody>
</table>

1. What is the least number of coins you can use to buy a pack of pencils for $0.48 without using a half-dollar and getting change? List the coins.

   **6; 1 quarter, two dimes, and 3 pennies**

2. Randy has 9 coins with a total value of $0.86. What are his coins?

   **1 quarter, 5 dimes, 2 nickels and 1 penny**

   What fraction could you write to show the value in hundredths of a dollar that Randy has?

   **86/100**

3. Charlene has 2 quarters, 1 nickel, 2 dimes, and 4 pennies. What fraction could you write to show the value in hundredths of a dollar that Charlene has?

   **79/100**

4. Make up your own money riddle. Write the riddle and the answer.

   **Check students’ work.**

13-4 Name ___________________ Date ___________________  
**Reteach**  
**Decimals and Money**

**KEY CONCEPT** Fractions, Decimals, and Money

- **Money Words**
  - One cent or one hundredth of a dollar: 1¢ or $0.01
  - Five cents or five hundredths of a dollar: 5¢ or $0.05
  - Ten cents or ten hundredths of a dollar: 10¢ or $0.10
  - Twenty-five cents or twenty-five hundredths of a dollar: 25¢ or $0.25
  - Fifty cents or fifty hundredths of a dollar: 50¢ or $0.50
  - One hundred cents or one hundred hundredths of a dollar: 100¢ or $1.00

- **Write a fraction for the part of a dollar the coin represents.**

  1. **5/100**
  2. **10/100**
  3. **50/100**

4. Sadie went to the pet store to buy fish food. She spent 4 dimes and 10 pennies. What fraction of a dollar did Sadie spend?

   **50/100 or 1/2**
Skills Practice

Decimals and Money

Write the part of the dollar each amount represents.

1. \( \frac{50}{100} \) or \( \frac{1}{2} \) or 0.50

2. \( \frac{35}{100} \) or \( \frac{7}{20} \) or 0.35

3. \( \frac{55}{100} \) or \( \frac{11}{20} \) or 0.55

4. \( \frac{25}{100} \) or \( \frac{1}{4} \) or 0.25

Solve.

5. To buy bubbles, Taye needs 75 cents. He has 6 nickels, 2 dimes, and 1 quarter. Does he have enough?
   - yes

6. Julie spent \( \frac{7}{10} \) of a dollar on a bag of trail mix. If she gave the clerk \( \frac{75}{100} \) of a dollar, how much change did she get back?
   - \$0.05

7. Brad has 3 dimes and 2 quarters. How much money does he have altogether?
   - \$0.80

8. Curtis gives \( \frac{1}{2} \) of all of the money he earns to his parents. If he earns \$50, how much will he give his parents?
   - \$25

Homework Practice

Decimals and Money

Write the part of the dollar each amount represents.

1. \( \frac{25}{100} \) or \( \frac{5}{20} \) or 0.25

2. \( \frac{32}{100} \) or \( \frac{8}{20} \) or 0.32

3. \( \frac{0.25}{100} \) or \( \frac{1}{4} \) or 0.25

4. Fatou has 5 dimes and 2 quarters. How much money does she have altogether?
   - \$1.00

Spiral Review (Lesson 13–2)

Write each fraction as a decimal.

5. \( \frac{7}{10} = 0.7 \)

6. \( \frac{3}{10} = 0.3 \)

7. \( \frac{92}{100} = 0.92 \)

Write each decimal as a fraction.

8. \( 0.4 = \frac{4}{10} \)

9. \( 0.6 = \frac{6}{10} \)

10. \( 0.65 = \frac{65}{100} \)
Problem-Solving Practice
Decimals and Money

Solve.

1. A store sells a card for 89¢. What part of a dollar is 89¢?
   89
   100; 0.89

2. Clara has two dimes, a nickel, and four pennies in her pocket. What part of a dollar is the money she has in her pocket?
   29
   100; 0.29

3. Joan wants to buy a toy for a dollar. She has 1 quarter, two nickels, and a dime. What part of a dollar does she need to buy the toy?
   25
   100; 0.25

4. Mr. Brown bought a hammer for $5.75. He gave the cashier $6. What part of a dollar did Mr. Brown receive in change?
   25
   100; 0.25

5. Tom buys a book that costs $4.37 and a bookmark that costs $0.75. He gives the cashier a $5 bill and a $1 bill. What part of a dollar does he receive in change?
   88
   100; 0.88

6. Sue puts $1 of every dollar she earns in a jar. If she earns $8, how much money will she save?
   $2

7. Judy spent $3 of a dollar on a bottle of juice. She gave the cashier $3 of a dollar. How much money did she receive in change?
   15¢

8. Carlos spent $1 of a dollar on a pencil. He gave the cashier $1. How much change did he receive?
   50¢

Enrich
Money Match

Our money system is based on the decimal system. The whole numbers are on the left side of the decimal. The tenths and hundredths are on the right.

Match the decimal values with the monetary values below. Write the money value under each picture.

<table>
<thead>
<tr>
<th>Decimal Value</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.34</td>
<td>$5.34</td>
</tr>
<tr>
<td>1.48</td>
<td>$1.48</td>
</tr>
<tr>
<td>2.28</td>
<td>$2.28</td>
</tr>
<tr>
<td>1.11</td>
<td>$1.11</td>
</tr>
<tr>
<td>1.29</td>
<td>$1.29</td>
</tr>
<tr>
<td>1.03</td>
<td>$1.03</td>
</tr>
<tr>
<td>3.04</td>
<td>$3.04</td>
</tr>
<tr>
<td>0.85</td>
<td>$0.85</td>
</tr>
</tbody>
</table>

1. $1.48
2. $1.11
3. $1.03
4. $2.28
5. $0.85
6. $3.04
7. $5.34
8. $2.50
Choose a strategy

Antonio picked 24 apples to make applesauce. It will take 12 apples for each batch of sauce. How many batches of sauce can Antonio make?

Step 1
Understand
Be sure you understand the problem.
What do you know?
• Antonio picked 24 apples.
• It will take 12 apples to make a batch of applesauce.
• You need to find how many batches of sauce Antonio can make.

Step 2
Plan
Make a plan.
Choose a strategy.
You can draw a picture. Decide what facts you know. Plan what you will do and in what order. Use your plan to solve the problem. Then check your solution to make sure it makes sense.

Step 3
Solve
Carry out your plan.
You know that you need to find out how many batches of applesauce Antonio can make with 24 apples.

Draw 24 circles to represent the apples. Circle groups of 12. Write a division sentence.

\[ 24 \div 12 = 2 \text{ batches} \]

Step 4
Is the solution reasonable?
Reread the problem.
How can you check your answer?

\[ 2 \times 12 = 24 \]

Use any strategy shown below to solve.

• Guess and Check
• Draw a picture
• Work a simpler problem
• Act it out
• Make an organized list

1. Carolina has 25 peanuts and she wants to share them. If she and each of her friends get the same amount of peanuts, how many will each one get?

2. Becky went to the park with 6 friends. Two of them left early and 1 got hurt. How many are left to play with Becky?

| 5 peanuts |
| 3 friends |
Use any strategy to solve.

1. Dinah and Trey each have some money. The sum of their money is 78¢. The difference is 6¢. Dinah has more money than Trey. How much money do they each have?
  
   **Dinah: 42¢; Trey: 36¢**

2. Julie, Shawna, and Matt are in the lunch line. Julie is not first. Matt is behind Julie. What order are they standing in line? List their names from first to last.
   
   **Shawna, Julie, Matt**

3. The cashier gave Jaime $0.48 in change. Jaime bought shampoo and toothpaste. The shampoo costs $3.63. Jaime gave the cashier one $5-bill and two $1-bills. How much did the toothpaste cost?
   
   **$2.89**

4. Katie went to lunch at 11:30. Before lunch, she had Math class for one hour. She went to Music class for 45 minutes before Math class. What time did Katie start Music class?
   
   **9:45**

5. Don can order a small, medium, or large juice. He can order orange juice or apple juice. How many possible drink combinations can he order?
   
   **6**

6. Paula has $\frac{1}{2}$ of a dollar. Rick has $\frac{3}{10}$ of a dollar. Bonnie has 5 nickels. If they combine their money, do they have enough to buy a game that costs $1.50? Explain.
   
   No; $\frac{1}{2}$ of a dollar $= 0.25$, $\frac{3}{10}$ of a dollar $= 0.30$, 5 nickels $= 0.25; 0.25$ + $0.25$ + $0.25 = 0.75$. Together, they have $0.75$, which is less than $1.50$.

Spiral Review

Write each fraction as a decimal. (Lesson 13-2)

5. $\frac{3}{10}$ 0.3  
6. $\frac{2}{10}$ 0.2  
7. $\frac{65}{100}$ 0.65

Write each decimal as a fraction.

8. $0.8 \frac{3}{4}$  
9. $0.9 \frac{9}{10}$  
10. $0.49 \frac{49}{100}$
Using the word bank below, complete each sentence by writing the correct word or words in the blank.

- decimal
- decimal point
- tenth
- hundredth
- fraction
- addition
- subtraction

1. ______ is an operation on two or more addends that is equal to a sum.
2. A ______ is one of ten equal parts or \( \frac{1}{10} \).
3. A ______ is a number that represents part of a whole or part of a set.
4. A ______ is a number with one or more digits to the right of the decimal point.
5. A ______ is a place value position. One of one hundred equal parts.
6. A ______ is a period separating the ones and the tenths in a number.
7. ______ is an operation that tells the difference, when some or all are taken away.

Using what each person says. Then find the book or hobby kit that each person bought.

- **How to Draw book**
- **Paint by Numbers Kit**
- **Model rocket kit**
- **Modeling clay kit**
- **Paper folding book**
- **Bird Feeder Kit and $2.35**

1. “I gave the cashier $10.00. I got back one one-hundredth of a dollar in change. What did I buy?”
   - **Paint by Numbers Kit**

2. “I gave the cashier two $5 bills. I got back a one-dollar bill, a quarter, and forty hundredths of a dollar in change. What did I buy?”
   - **Modeling clay kit**

3. “I gave the cashier nine $1 bills. I got back five coins in change. Four were dimes and one was worth five one-hundredths of a dollar. What did I buy?”
   - **How to Draw book**

4. “I gave the cashier five $1 bills and a $5 bill. I got back 8 coins in change. Two of the coins were dimes, 4 were pennies, and two were quarters. What did I buy?”
   - **Model rocket kit**

5. “I was the last person to purchase something. I gave the cashier a $10.00. What did I buy and how much change did I get back?”
   - **Bird Feeder Kit and $2.35**
Oral Assessment

Use construction paper to draw a loaf of bread with 8 individual slices. On a separate piece of paper, draw a plate. Cut out each individual slice of bread and the plate. Then place the loaf of bread on a plate.

Read each question aloud to the student. Then write the student’s answers on the lines below the question.

1. Take 2 slices of bread away. How many pieces are left? 6 pieces
2. What fraction represents how many pieces of bread were taken away? \( \frac{2}{8} \) or \( \frac{1}{4} \)
3. What is the decimal form of that fraction? 0.25
4. Tell how you got your answer. \( 2 \div 4 = 0.25 \)
5. Take 5 slices of bread away from the full loaf. How many pieces are left? 3 pieces
6. What fraction represents how many pieces of bread were taken away? \( \frac{5}{8} \)

7. Explain your answer. \( 5 \div 8 = 0.63 \)
8. Kelly counts 100 vehicles in a parking lot. What decimal represents the amount of mini-vans?

<table>
<thead>
<tr>
<th>Parking Lot Vehicles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>cars</td>
</tr>
<tr>
<td>mini-vans</td>
</tr>
<tr>
<td>trucks</td>
</tr>
</tbody>
</table>

0.30

9. What is the fraction form for that decimal? \( \frac{3}{10} \) or \( \frac{30}{100} \)
10. What decimal represents the amount of trucks? 0.20
11. What is the fraction form for that decimal? \( \frac{20}{100} \) or \( \frac{1}{5} \)
12. Tell how you got your answer. \( \frac{20}{100} = \frac{4}{20} = \frac{1}{5} \)
13. What decimal represents that amount of cars? 0.50
14. What is the fraction form for that decimal? \( \frac{50}{100} \) or \( \frac{1}{2} \)
# Chapter 13 Assessment Answer Key

## Diagnostic Assessment
Page 34

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>$\frac{2}{3}$</td>
</tr>
<tr>
<td>2.</td>
<td>$\frac{1}{4}$</td>
</tr>
<tr>
<td>3.</td>
<td>$\frac{5}{10}$ or $\frac{1}{2}$</td>
</tr>
<tr>
<td>4.</td>
<td>$\frac{3}{7}$</td>
</tr>
<tr>
<td>5.</td>
<td>$\frac{2}{3}$</td>
</tr>
<tr>
<td>6.</td>
<td>$\frac{7}{10}$</td>
</tr>
<tr>
<td>7.</td>
<td>$0.05$ or $5$ cents</td>
</tr>
<tr>
<td>8.</td>
<td>$0.25$ or $25$ cents</td>
</tr>
<tr>
<td>9.</td>
<td>$0.10$ or $10$ cents</td>
</tr>
</tbody>
</table>

## Chapter Pretest
Page 35

<table>
<thead>
<tr>
<th></th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>$\frac{8}{10}$</td>
</tr>
<tr>
<td>2.</td>
<td>$0.71$</td>
</tr>
<tr>
<td>3.</td>
<td>$\frac{9}{10}$</td>
</tr>
<tr>
<td>4.</td>
<td>$0.3$</td>
</tr>
<tr>
<td>5.</td>
<td>$\frac{2}{10}$</td>
</tr>
<tr>
<td>6.</td>
<td>$0.22$</td>
</tr>
<tr>
<td>7.</td>
<td>$\frac{58}{100}$</td>
</tr>
<tr>
<td>8.</td>
<td>$0.01$</td>
</tr>
<tr>
<td>9.</td>
<td>$0.64$</td>
</tr>
<tr>
<td>10.</td>
<td>$1.10$</td>
</tr>
<tr>
<td>11.</td>
<td>$0.58$</td>
</tr>
<tr>
<td>12.</td>
<td>$9.13$</td>
</tr>
<tr>
<td>13.</td>
<td>$1.14$</td>
</tr>
<tr>
<td>14.</td>
<td>$16.98$</td>
</tr>
<tr>
<td>15.</td>
<td>$23.86$</td>
</tr>
<tr>
<td>16.</td>
<td>$8.60$</td>
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</table>

## Quiz 1
Page 36

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>1.</td>
<td>$0.4$</td>
</tr>
<tr>
<td>2.</td>
<td>$0.8$</td>
</tr>
<tr>
<td>3.</td>
<td>$0.5$</td>
</tr>
<tr>
<td>4.</td>
<td>$\frac{2}{10}$</td>
</tr>
<tr>
<td>5.</td>
<td>$\frac{4}{10}$</td>
</tr>
<tr>
<td>6.</td>
<td>$\frac{7}{10}$</td>
</tr>
<tr>
<td>7.</td>
<td>$0.7$</td>
</tr>
<tr>
<td>8.</td>
<td>$0.2$</td>
</tr>
<tr>
<td>9.</td>
<td>$0.4$</td>
</tr>
<tr>
<td>10.</td>
<td>$6$</td>
</tr>
</tbody>
</table>

(continued on the next page)
# Chapter 13 Assessment Answer Key

## Quiz 2 (13–3)
Page 37

1. 0.38
2. 0.45
3. 0.57

| 1. | 50  
100 | or 1  
2 | or 0.50 |
| 2. | 20  
100 | or 1  
5 | or 0.20 |
| 3. | 75  
100 | or 3  
4 | or 0.75 |

| 4. | 56  
100 |
| 5. | 39  
100 |
| 6. | 100  
100 |

| 7. | 0.64 |
| 8. | 0.55 |
| 9. | 95 cents, $0.95 |

## Mid-Chapter Review
Page 39

1. A, B, C, D

| 1. | A, B, C, D |
| 2. | G |
| 3. | B |
| 4. | H |
| 5. | A |

6. Check students’ work.

---

Grade 3  A17  Chapter 13
Chapter 13 Assessment Answer Key

Chapter Test, Form 1
Page 45

1. C

2. H

3. B

4. F

5. D

6. G

7. D

8. H

9. A

10. G

11. A

12. F

13. C

14. F

15. D

Chapter Test, Form 2A
Page 46

1. C

2. H

3. B

4. G

5. A

6. F

7. A

8. H

9. D

(continued on the next page)
Chapter 13 Assessment Answer Key

Chapter Test, Form 2A
Page 48

10. F

11. A

12. H

13. C

14. G

15. D

Chapter Test, Form 2B
Page 49

1. B

2. G

3. A

4. F

5. A

6. G

Page 50

7. A

8. H

9. C

10. G

11. A

12. G

13. C
Chapter 13 Assessment Answer Key

Chapter Test, Form 2C
Page 51

11. \( \frac{1}{4} \)

12. \( \frac{1}{10} \)

1. 0.9

2. \( \frac{37}{100} \)

3. \( \frac{1}{100} \)

4. \( \frac{3}{10} \)

5. \( \frac{28}{100} \)

6. 0.70

7. 0.6

8. 0.61

9. 0.2

10. $0.01

13. $10.41

14. $10.22

15. $2.59

16. $2.85

Chapter Test, Form 2D
Page 52

Page 53

1. 0.8

2. 0.25

3. \( \frac{28}{100} \)

4. \( \frac{3}{10} \)

5. \( \frac{1}{100} \)

6. 0.6

7. 0.2

8. 0.70

9. 0.61

10. $10.41

11. $10.22

12. $2.59

13. $2.85

14. $0.04

(continued on the next page)
### Chapter 13 Assessment Answer Key

#### Chapter Test, Form 2D
Page 54

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.</td>
<td>$\frac{1}{10}$</td>
</tr>
<tr>
<td>16.</td>
<td>$\frac{1}{4}$</td>
</tr>
<tr>
<td>17.</td>
<td>$\frac{16}{100}$</td>
</tr>
</tbody>
</table>

#### Chapter Test, Form 3
Page 55

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>0.2</td>
</tr>
<tr>
<td>2.</td>
<td>$\frac{9}{100}$ Sample answer: 0.14</td>
</tr>
<tr>
<td>3.</td>
<td>0.14</td>
</tr>
<tr>
<td>4.</td>
<td>0.7</td>
</tr>
<tr>
<td>5.</td>
<td>0.96</td>
</tr>
<tr>
<td>6.</td>
<td>0.08</td>
</tr>
<tr>
<td>7.</td>
<td>$\frac{2}{100}$</td>
</tr>
<tr>
<td>8.</td>
<td>$\frac{9}{10}$</td>
</tr>
<tr>
<td>9.</td>
<td>$\frac{37}{100}$</td>
</tr>
<tr>
<td>10.</td>
<td>$\frac{32}{100}$</td>
</tr>
<tr>
<td>11.</td>
<td>$\frac{4}{5}$</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.</td>
<td>$\frac{4}{10}$</td>
</tr>
<tr>
<td>13.</td>
<td>$9.23$</td>
</tr>
<tr>
<td>14.</td>
<td>$16.18$</td>
</tr>
<tr>
<td>15.</td>
<td>$3.01$</td>
</tr>
<tr>
<td>16.</td>
<td>$98.91$</td>
</tr>
<tr>
<td>17.</td>
<td>$\frac{57}{100}$</td>
</tr>
</tbody>
</table>

(continued on the next page)
# Chapter 13 Assessment Answer Key

Page 57, Extended-Response Test

## Scoring Rubric

<table>
<thead>
<tr>
<th>Score</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4</strong></td>
<td>The student demonstrates a <strong>thorough understanding</strong> of the mathematics concepts and/or procedures embodied in the task. The student has responded correctly to the task, used mathematically sound procedures, and provided clear and complete explanations and interpretations. The response may contain minor flaws that do not detract from the demonstration of a thorough understanding.</td>
</tr>
<tr>
<td><strong>3</strong></td>
<td>The student demonstrates an <strong>understanding</strong> of the mathematics concepts and/or procedures embodied in the task. The student’s response to the task is essentially correct with the mathematical procedures used and the explanations and interpretations provided demonstrating an essential but less than thorough understanding. The response may contain minor errors that reflect inattentive execution of the mathematical procedures or indications of some misunderstanding of the underlying mathematics concepts and/or procedures.</td>
</tr>
<tr>
<td><strong>2</strong></td>
<td>The student has demonstrated only a <strong>partial understanding</strong> of the mathematics concepts and/or procedures embodied in the task. Although the student may have used the correct approach to obtaining a solution or may have provided a correct solution, the student’s work lacks an essential understanding of the underlying mathematical concepts. The response contains errors related to misunderstanding important aspects of the task, misuse of mathematical procedures, or faulty interpretations of results.</td>
</tr>
<tr>
<td><strong>1</strong></td>
<td>The student has demonstrated a <strong>very limited understanding</strong> of the mathematics concepts and/or procedures embodied in the task. The student’s response to the task is incomplete and exhibits many flaws. Although the student has addressed some of the conditions of the task, the student reached an inadequate conclusion and/or provided reasoning that was faulty or incomplete. The response exhibits many errors or may be incomplete.</td>
</tr>
<tr>
<td><strong>0</strong></td>
<td>The student has provided a <strong>completely incorrect</strong> solution or uninterpretable response, or no response at all.</td>
</tr>
</tbody>
</table>
In addition to the scoring rubric found on page A1, the following sample answers may be used as guidance in evaluating open-ended assessment items.

1. a. We have two decimal places because the smallest form of money we use is cents, and cents are hundredths.
   b. The amount of a penny can be expressed as one cent, one hundredth of a dollar, 1¢, $0.01, and \( \frac{1}{100} \).
   c. The amount of a nickel can be expressed as five cents, five hundredths of a dollar, 5¢, $0.05, and \( \frac{5}{100} \).
   d. The amount of a dime can be expressed as ten cents, ten hundredths of a dollar, 10¢, $0.10, and \( \frac{10}{100} \).
   e. The amount of a quarter can be expressed as twenty-five cents, twenty-five hundredths of a dollar, 25¢, $0.25, and \( \frac{25}{100} \).

2. a. To find the number of girls on the team, subtract the number of boys from the number of players. Since \( 10 - 7 = 3 \), then 3 of the 10 players are girls, or \( \frac{3}{10} \) of the team are girls, or 0.7 of the team are girls.
   b. If 2 boys left the team and 2 girls joined, there would be 5 boys and 5 girls on the team, since \( 7 - 2 = 5 \) and \( 3 + 2 = 5 \). So, 5 of the 10 players are girls, or \( \frac{1}{2} \) of the team are girls, or 0.5 of the team are girls.

3. First, add the cost of the hat and t-shirt: \( $5.50 + $3.25 = $8.75 \). Then, subtract the cost of the hat and t-shirt from the amount Antonia paid the cashier: \( $10.00 - $8.75 = $1.25 \). Finally, compare the change Antonia received from the cashier to the price of an arcade ticket: \( $1.25 > $1.00 \). So, yes, Antonia had enough change to buy one arcade ticket.

4. The Act It Out strategy is a way to solve a problem using methods such as words, numbers, symbols, charts, graphs, tables, diagrams, and models to find the answer.
Chapter 13 Assessment Answer Key

Cumulative Standardized Test Practice

Page 59

1. C

2. G

3. C

4. F

5. B

6. H

Page 60

7. D

11. $3.09

12. 0.03

13. $\frac{3}{9} \div \frac{4}{12}$

$= \frac{6}{18}$, etc.

14. a quarter

15. $6 \times 4 = 24$

$59,885

Page 61

16. __________

$\frac{1}{2}$ or its equivalents:

$\frac{3}{6'} \div \frac{4}{8'} \div \frac{5}{10'}$, etc.

8. __________

9. 0.49

10. $0.41$