Grade 4 Chapter 15
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Teacher’s Guide to Using the
Chapter 15 Resource Masters

The Chapter 15 Resource Masters includes the core materials needed for Chapter 15. 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. You can use this graphic organizer in coordination with the appropriate lesson. 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 15-1. 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. If feasible, interview students in small groups, asking them the interview questions in the guide. 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 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. It also contains word problems that cover the skill. Spaces for students’ answers are provided on the worksheet.

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. Spaces for students’ answers are provided on the worksheet.

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 or offer a historical or multicultural look at the lesson’s concepts. Some Enrichment materials are designed to widen students’ perspectives on the mathematics they are learning.

Resources for Problem-Solving 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 practice worksheets.

Assessment Options

The assessment masters in the Chapter 15 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.

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

**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.

**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. The variety of approaches includes solving problems using manipulatives as well as pencil and paper.

**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 15: *Decimals: Addition and Subtraction*.

Fill in the missing section of the graphic organizer.

<table>
<thead>
<tr>
<th>Vocabulary Term</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>decimal</td>
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<tr>
<td>decimal point</td>
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<td></td>
</tr>
<tr>
<td>sum</td>
<td></td>
<td></td>
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<tr>
<td>difference</td>
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<tr>
<td>round</td>
<td></td>
<td></td>
</tr>
<tr>
<td>estimate</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Student-Built Glossary

This is an alphabetical list of new vocabulary terms you will learn in Chapter 15: Decimals: Addition and Subtraction. 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>decimal</td>
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<tr>
<td>sum</td>
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</tbody>
</table>
Dear Family,

Today my class started Chapter 15, Decimals: Addition and Subtraction. I will be learning to add and subtract simple decimals. I will also be learning to round decimals and estimate decimal sums and differences. 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. $2.05

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

addends Any numbers being added together. In $2 + 4 = 6$, 2 and 4 are addends.

sum The answer to an addition problem. In $2 + 8 = 10$, 10 is the sum.

difference The answer to a subtraction problem. In $8 - 3 = 5$, 5 is the difference.

round To change the value of a number to one that is easier to work with. 21 can be rounded to 20.

estimate A number close to an exact value; an estimate indicates about how much. $47 + 22$ (estimate $50 + 20$) is about 70.

Activity

Start a pretend store. Find items around the house and attach price tags to them. Be sure the prices are in decimal form. (Example: $1.24) Once you have stocked your store, pretend you are the customer and select things you want to buy. Add up the total price. Repeat.

Books to Read

Piece=Part=Portion by Scott Gifford

Alice in Pastaland by Alexandra Wright

The Doorbell Rang by Pat Hutchins
Estimada familia:
Hoy mi clase comenzó el Capítulo 15, Decimales: Adición y sustracción. Aprenderé a sumar y a restar decimales simples y también a redondear decimales y a estimar sumas y diferencias de decimales. 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. $2.05

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

**sumando** Cualquier número que se suma a otro. $2 + 4 = 6$, 2 y 4 son sumandos

**suma** Respuesta de un problema de adición. $2 + 8 = 10$, 10 es la suma

**diferencia** Respuesta de un problema de sustracción. $8 - 3 = 5$, 5 es la diferencia

**redondear** Cambiar el valor de un número a uno con el cual es más fácil trabajar. 21 se puede redondear a 20

**estimación** Número cercano a un valor exacto. Una estimación indica aproximadamente cuánto. $47 + 22$ (estimación $50 + 20$) aproximadamente 70

Actividad

Comiencen una tienda ficticia. Encuentren objetos alrededor de la casa y colóquenles rótulos de precios. Asegúrense que estos los rótulos estén en forma decimal. (Ejemplo: $1.24$) Cuando hayan abastecido la tienda, simulen ser el cliente y elijan cosas que quieran comprar. Sumen el precio total. Repitan.

Libros recomendados

*Piece=Part=Portion* de Scott Gifford

*Alice in Pastaland* de Alexandra Wright

*The Doorbell Rang* de Pat Hutchins
Anticipation Guide

Decimals: Addition and Subtraction

STEP 1

Before you begin Chapter 15

- 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. A, D, or NS</td>
<td>1. A decimal is a number with one or more digits to the right of the decimal point.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2. $3.45$ is an example of a decimal.</td>
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<tr>
<td></td>
<td>3. 325 is an example of a decimal.</td>
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</tr>
<tr>
<td></td>
<td>4. A sum is an answer to an addition problem.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. The difference is an answer to a subtraction problem.</td>
<td></td>
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<tr>
<td></td>
<td>6. In $8 - 7 = 1$, 1 is the sum.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. In $9 + 4 = 13$, 13 is the difference.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8. To round is to change the value of a number to one that is easier to work with.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9. An estimate is a number close to an exact value.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10. An estimate indicates about how much.</td>
<td></td>
</tr>
</tbody>
</table>

STEP 2

After you complete Chapter 15

- 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 15 Game

Less is More

You will need:
32 index cards
pen

Set

Make 3 sets of index cards numbered 0–9. You will have 3 cards of each digit. Draw a decimal point on each of the remaining two cards. Give each player a card with a decimal point. Shuffle the other cards and set them facedown on the table.

GO!

1. Have each player draw 3 cards. Use the three numbers and the decimal point to make the least possible decimal in the thousandths.

2. Compare the decimals. The player with the lesser decimal collects all the number cards from that round.

3. Repeat the steps until the stack of numbers is gone. The player with the most cards wins.
Reteach

Round Decimals

You can use a number line to help you round decimals.

To round a decimal to the nearest whole number, look at the digit in the tenths place. If the tenths digit is 5 or greater, round up to the nearest one. If the tenths digit is less than 5, round down to the nearest one.

Round 8.3 to the nearest whole number.
Think: 8.3 is closer to 8 than 9.
So, 8.3 rounds down to 8.

Round 9.8 to the nearest whole number.
Think: 9.8 is closer to 10 than 9.
So, 9.8 rounds up to 10.

Round to the nearest whole number.
Use the number line above to help you.

1. 8.6
2. 8.2
3. 9.8
4. 9.5
5. 9.1
6. 9.3
7. 8.4
8. 8.7

To round to the nearest tenth, look at the digit in the hundredths place. If the hundredths digit is 5 or greater, round up to the nearest tenth. If the hundredths digit is less than 5, round down to the nearest tenth.

Think: 1.56 is closer to 1.60 than 1.50.
So, 1.56 rounds up to 1.60.

Think: 1.61 is closer to 1.60 than 1.70.
So, 1.61 rounds down to 1.60.

Round to the nearest tenth.
Use the number line above to help you.

9. 1.52
10. 1.59
11. 1.55
12. 1.51
13. 1.64
14. 1.63
15. 1.68
16. 1.66
Skills Practice

Round Decimals

Round to the nearest whole number.

1. 9.47  
2. 1.1  
3. 13.61  
4. 93.56  
5. 2.8  
6. 3.51  
7. 25.09  
8. 88.48  
9. 6.01  
10. 4.62  
11. 37.8  
12. 19.71  
13. 18.03  
14. 59.26  
15. 33.52  
16. 91.73  

Round to the nearest tenth.

17. 7.24  
18. 1.27  
19. 12.55  
20. 36.97  
21. 9.43  
22. 3.98  
23. 64.93  
24. 53.84  
25. 6.58  
26. 7.24  
27. 47.96  
28. 19.46  
29. 14.06  
30. 42.65  
31. 78.84  
32. 85.76  

Solve.

33. A vitamin pill weighs 2.34 grams. What is its mass to the nearest tenth of a gram?

34. Jason weighs 152.6 pounds. What is his weight to the nearest pound?
Homework Practice

Round Decimals

Round to the nearest whole number.
1. 4.39  
2. 6.56  
3. 17.42  
4. 49.71  
5. 65.32  
6. 80.47  

Round to the nearest tenth.
7. 3.27  
8. 8.23  
9. 17.46  
10. 32.35  
11. 59.52  
12. 71.88  

Round to the nearest whole number.
13. Nick's largest dog is a Newfoundland. It weighs 156.64 pounds. About how much does Nick's dog weigh?  
14. Sarah wants to buy a new CD that costs $14.58. About how much money will she need to buy the CD?  

Spiral Review

Use a number line to compare. Write >, <, or =. (Lesson 14-7)
15. 6.2  
16. 5.4  
17. 3.7  

Use a number line to order from greatest to least.
18. 7\frac{1}{2}; 7.4; 7\frac{7}{8}; 7.8  
19. 8\frac{48}{50}; 8.15; 8\frac{34}{50}; 8.77  

Write the letter that represents the approximate location of each mixed number or decimal.

20. 6\frac{4}{8}  
21. 6.3  
22. 6\frac{4}{5}  
23. 6\frac{1}{10}
1. Jennifer spent 6.34 hours at the beach today. Rounded to the nearest whole hour, how long did she spend at the beach?

2. In the 1968 Olympics, Mike Burton from the U.S. swam the 400-meter freestyle race in 4.09 seconds. What is his speed rounded to the nearest tenth?

3. Amy and Kate decide to count the sidewalk squares between their houses. They count exactly 43.34. To the nearest tenth, how many squares are between their houses?

4. The record for the discus throw at Westlake High School is 30.58 meters. What is this distance rounded to the nearest whole number?

5. Jon is making a bookshelf unit the exact length of one wall. His measurements show that the wall is 67.07 inches long. If Jon rounds this number to the nearest tenth and cuts pieces of wood that long, how long will each piece of wood be?

Will the shelf fit in the room if he does this?

6. In the 2000 Olympics, Marion Jones from the U.S. ran the 200-meter race in 21.84 seconds. At her track meet, Sara runs it in 32.75 seconds. Round each speed to the nearest tenth.

______ seconds, _______ seconds
Enrich

Mystery Numbers

Use the clues to solve each riddle. Circle the mystery number.

1. Round me to the nearest whole number. You get 5.
   Round me to the nearest tenth. You get 5.3.
   Round me to the nearest hundredth. You get 5.32.
   What number am I? 5.316  5.295  5.334

2. Round me to the nearest whole number. You get 12.
   Round me to the nearest tenth. You get 12.5.
   Round me to the nearest hundredth. You get 12.48.
   What number am I? 12.557  12.479  12.486

3. Round me to the nearest whole number. You get 17.
   Round me to the nearest tenth. You get 16.9.
   Round me to the nearest hundredth. You get 16.94.
   What number am I? 16.937  16.899  16.934

4. Round me to the nearest whole number. You get 28.
   Round me to the nearest tenth. You get 28.0.
   Round me to the nearest hundredth. You get 28.00.
   What number am I? 27.959  28.002  28.008

5. Round me to the nearest whole number. You get 124.
   Round me to the nearest tenth. You get 124.4.
   Round me to the nearest hundredth. You get 124.45.
   What number am I? 124.456  124.444  124.446

6. Round me to the nearest whole number. You get 203.
   Round me to the nearest tenth. You get 203.5.
   The sum of my digits is 20.
   What number am I? 203.456  203.458  203.566

Create and exchange your own mystery number puzzles with a partner.
Reteach

Estimate Decimal Sums and Differences

To estimate the sums of decimals, round each decimal to the nearest whole number. Then add the rounded numbers.

Estimate 22.52 + 4.49.
Round each number to the nearest whole number.
Add.
So 22.52 + 4.49 is about 27.

Estimate $6.25 − 4.79.
Round each number to the nearest dollar.
Subtract. So $6.25 − 4.79 is about $1.00.

Estimate. Round to the nearest whole number. Show how you rounded.

1. $5.89 + $4.29
2. 17.3 + 5.67
3. 8.48 + 3.07
4. 6.7 + 3.2
5. $15.95 + $2.59
6. 25.7 + 8.9
7. 14.25 − 7.84
8. 10.97 − 7.4
9. 3.62 − 1.87
10. $10.25 − $3.45
11. $10.54 − $7.81
12. 43.7 − 20.48
Skills Practice

Estimate Decimal Sums and Differences

Estimate. Round to the nearest whole number.

1. 5.1 + 9.4 _____  2. 7.45 + 8.56 _____  3. 26.14 – 12.95 _____
4. 6.7 + 8.4 _____  5. 4.32 + 7.59 _____  6. $34.95 – $12.20 _____
7. 1.9 + 3.8 ____  8. 8.57 – 3.52 ____  9. 25.60 – 11.55 _____
10. $6.35 + $5.95 _____  11. 17.26 – 13.78 ____  12. 47.15 – 17.11 _____
15. $10.25 + $3.25 _____  16. $16.12 – $12.80 _____
17. 19.67 + 9.94 _____  18. 94.32 – 22.80 _____
19. 3.75 + 5.24 _____  20. $54.10 – $34.89 _____
21. 4.16 + 9.66 _____  22. 13.4 – 6.79 _____
23. 2.93 + 6.74 _____  24. 47.65 – 17.93 _____

Estimate by rounding to the nearest whole number. Then compare. Use >, <, or =.

25. 3.7 + 2.5  1.9 + 4.2  30. 7.2 – 4.5  6.8 – 5.8
26. 4.9 + 1.6  5.1 + 3.1  31. 5.2 – 2.3  9.7 – 7.9
27. 7.6 – 2.2  5.6 – 1.3  32. 7.7 + 7.2  8.1 + 9.1
28. 8.3 – 6.6  4.2 – 2.3  33. 8.7 + 9.6  9.1 + 8.6
29. 5.5 + 6.3  8.2 + 5.2  34. 1.6 + 2.1  1.7 + 2.0

Solve.

35. The odometer on a new car shows 17.7 miles. Sean drives the car 12.9 miles. About how many miles does the odometer show now?

36. Nancy ran a total of 5.7 miles today. She ran 3.2 miles this morning. About how many miles did Nancy run this afternoon?
Homework Practice

Estimate Decimal Sums and Differences

Estimate. Round to the nearest whole number.

1. \[6.3 + 4.6\]
2. \[3.7 + 5.4\]
3. \[8.2 + 12.5\]
4. \[17.8 + 11.1\]

Estimate by rounding to the nearest whole number.
Then compare. Use >, <, or =.

5. \[5.64 + 12.33\] \(\bigcirc\) \[14.52 + 8.18\]
6. \[9.66 + 9.44\] \(\bigcirc\) \[13.71 + 5.32\]
7. \[16.21 - 7.45\] \(\bigcirc\) \[18.83 - 9.13\]
8. \[17.53 - 5.31\] \(\bigcirc\) \[15.45 - 6.54\]

9. Colin is 3.97 feet tall. Caroline is 3.15 feet tall. To the nearest whole number, about how much taller is Colin than Caroline?

10. Ricardo has saved $23.46. Jasmine has saved $18.67. To the nearest dollar, about how much more money has Ricardo saved than Jasmine?

Spiral Review

Round to the nearest whole number. (Lesson 15-1)

11. \[3.26\]
12. \[7.57\]
13. \[18.48\]
14. \[53.61\]
15. \[73.33\]
16. \[88.86\]

Round to the nearest tenth.

17. \[2.13\]
18. \[6.75\]
19. \[19.34\]
20. \[33.46\]
21. \[57.53\]
22. \[88.68\]

Round to the nearest whole number.

23. Jacob works 143.62 hours a year. Emma works 187.34 hours per year. About how many more hours per year does Emma work than Jacob?

24. Michelle’s family is buying pizza for delivery. It will cost $23.54. About how much money will Michelle’s family need?
Problem-Solving Practice

Estimate Decimal Sums and Differences

Estimate. Round to the nearest whole number.

1. The train trip from New York, NY, to Washington, D.C., takes 3.4 hours. The trip from New York to Norfolk, VA, takes 7.6 hours. About how much longer does it take to get to Norfolk?

2. Mr. Jones needs a bag of fertilizer and a bag of pine chips for his garden. A bag of fertilizer costs $8.98 and a bag of pine chips costs $5.13 at the garden store. About how much will Mr. Jones pay?

3. Ellie wants to practice skating in a straight line. She chalks a line on the sidewalk that is 15.75 meters long. Then she adds another 14.25 meters to her line. About how long is Ellie’s line now?

4. Nadya has picked up $15.25 worth of art supplies at the hobby store. She puts back a sketch pad that costs $4.98. About how much money will the items cost now?

5. Jeannie wants to buy a jacket that costs $26.83. Her mother agrees to pay $15.50 of the total amount. About how much money does Jeannie need to buy the jacket?

6. Roger spent $43.07 on materials to build a small skate ramp. He spent $76.83 on materials to build a large skate ramp. About how much did Roger spend on the skate ramps altogether?
Use estimation skills to choose decimals from the shelf to make each equation true. You may use the numbers on the shelf more than once.

1. ______ + ______ = 0.46
2. ______ + ______ = 3.31
3. ______ - ______ = 0.5
4. ______ - ______ = 0.12
5. ______ + ______ = 2.2
6. ______ + ______ = 0.66
7. ______ - ______ = 0.7
8. ______ - ______ = 0.29
9. ______ + ______ = 0.3
10. ______ - ______ = 0.2
### Reteach

**Problem-Solving Strategy**

**Work Backward**

Paul had $8.25 more yesterday than he does today. Yesterday he had $12. How much does Paul have today?

**Step 1. Understand**

**Be sure you understand the problem.**

Read carefully.

• What do you know?
  
  Paul had ________ more yesterday than he does today.
  
  Yesterday Paul had _____.

• What do you need to find?
  
  You need to find how much ________________.

**Step 2. Plan**

**Make a plan.**

Choose a strategy.

You can work backward to solve the problem.

Start with how much Paul had yesterday.

Then work backward to find how much he has today.
**Problem-Solving Strategy**

**Step 3. Solve**

<table>
<thead>
<tr>
<th>Carry out your plan.</th>
</tr>
</thead>
</table>
| You know Paul had ______ yesterday.  
You know Paul had ______ more yesterday than he does today.  
Think: Paul had $12 yesterday, which is $8.25 more than he has today.  
Subtract to find how much Paul has today.  
$12.00 − $8.25 = $3.75  
Paul has ______ today. |

**Step 4. Check**

<table>
<thead>
<tr>
<th>Is the solution reasonable?</th>
</tr>
</thead>
</table>
| Reread the problem.  
Work forward to check your answer.  
Start with your answer. Add $8.25.  
Did you end with $12? __________________  
What other strategies could you use to solve the problem? |

**Solve. Use the *work backward* strategy.**

1. Sally had $10 less yesterday than she does today. Yesterday she had $13.30. How much does Sally have today?

2. Lin and Roy walk to the library. Lin walks twice as far as Roy. Roy walks 4 miles. How far does Lin walk?
Skills Practice
Problem-Solving Strategy

Solve. Use the work backward strategy.

1. Karen had $7 less yesterday than she does today. Yesterday she had $18. How much does Karen have today? _____

2. T.J. had 46 basketball cards. Then he bought some more basketball cards at the store. Now T.J. has 58 basketball cards. How many cards did T.J. buy? ____________

3. Mr. Thomas and Ms. Hernandez drive to the same movie theater. Mr. Thomas drives twice as far as Ms. Hernandez. Ms. Hernandez drives 13 miles. How far does Mr. Thomas drive? ____________

4. Kate has 3 times as many California quarters as Ohio quarters. She has 36 California quarters. How many Ohio quarters does Kate have? _________________

Solve. Use any strategy.

5. Mr. Johnson has $327.50. He spends $26.50 on gasoline. How much money does Mr. Johnson have left? ______
   Strategy: ____________________________________________

6. Walking a mile burns about 110 calories. About how many calories would you burn if you walked 4 miles?
   ____________________________________________
   Strategy: ____________________________________________

7. Write a problem that can be solved by working backward. Share it with others.
   ____________________________________________
   ____________________________________________
**Homework Practice**

**Problem-Solving Strategy**

Solve. Use the *work backward* strategy.

1. A number is divided by 4. Then 2 is added to the quotient. Finally the sum is multiplied by 3. The result is 12. What is the number?

2. Mrs. Washington can jog one mile in 9 minutes. She can walk one mile in 15 minutes. She always stretches for five minutes before exercising. She jogged 2 miles and walked 2 miles. If she finished at 9:15 A.M., what time did she start?

3. Alejandro has 4 times as many crayons as markers. He has 6 more markers than pencils. He has 12 pencils. How many crayons does he have?

4. Emily bought a $5 sandwich. She then repaid her friend $6. Now Emily has $8. How much money did she have originally?

Estimate. Round to the nearest whole number. (Lesson 15-2)

5. $ \begin{align*} 5.4 + 5.7 \end{align*}$

6. $ \begin{align*} 2.8 + 7.3 \end{align*}$

7. $ \begin{align*} 9.3 + 13.6 \end{align*}$

Estimate by rounding to the nearest whole number. Then compare. Use $>$, $<$, or $=$.

8. $ \begin{align*} 6.72 + 11.54 \quad & \quad 13.33 + 9.44 \end{align*}$

9. $ \begin{align*} 8.75 + 11.23 \quad & \quad 14.16 + 5.89 \end{align*}$

10. $ \begin{align*} 18.46 - 8.29 \quad & \quad 14.95 - 5.26 \end{align*}$

11. Juan can throw a ball 23.47 yards. Michael can throw a ball 19.77 yards. To the nearest whole number, about how much farther can Juan throw the ball than Michael?

12. Sydney can run a mile in 8.6 minutes. Melissa can run a mile in 7.4 minutes. To the nearest whole minute, about how much faster can Melissa run a mile than Sydney?
A square is “magic” if the numbers in every row, every column, and both diagonals add up to the same number. In this case the sum is 10.2. Use the numbers in the box to complete the magic square below.

\[
\begin{array}{cccc}
3.0 & 3.1 & 3.2 & 3.3 \\
3.4 & 3.5 & 3.6 & 3.7 \\
3.8 & & & \\
\end{array}
\]
Reteach
Add Decimals

You can use models to help you add decimals.

Find 1.34 + 1.28.

One Way:
Using Models

Color 1.34 dark gray. Color 1.28 with stripes. Count the number of squares you shaded.

Another Way:
Using Paper and Pencil

Add each place. Regroup if needed.

```
1.34
+ 1.28
-----
2.62
```

There are 2 whole grids shaded and 62 out of 100 shaded in the third grid.

So, 1.34 + 1.28 = 2.62.

Find each sum. Use the space below to draw 10-by-10 grids to help you if needed.

1. 1.7 + 1.4 = ______
2. 1.24 + 0.38 = ______
3. 0.5 + 0.8 = ______
4. 1.5 + 1.35 = ______
5. 2.25 + 1.03 = ______
6. 1.52 + 0.35 = ______
7. 0.9 + 0.8 = ______
8. 0.6 + 1.85 = ______
9. 0.85 + 0.15 = ______
10. 0.8 + 0.6 = ______
Add Decimals

1. \[0.36 + 0.25 = \]
2. \[0.69 + 9.26 = \]
3. \[6.37 + 5.60 = \]
4. \[0.29 + 0.44 = \]
5. \[23.60 + 5.40 = \]
6. \[2.87 + 8.12 = \]
7. \[0.60 + 0.70 = \]
8. \[32.75 + 12.30 = \]
9. \[36.21 + 9.75 = \]
10. \[1.67 + 1.45 = \]
11. \[25.97 + 0.12 = \]
12. \[12.94 + 7.26 = \]
13. \[2.67 + 1.38 = \]
14. \[12.32 + 1.74 = \]
15. \[0.25 + 12.25 = \]
16. \[12.5 + 11.35 = \]
17. \[2.7 + 2.73 = \]
18. \[3.36 + 5.03 = \]

Solve.

19. Angelo spends $13.67 at the grocery store and $7.42 at the video store. How much does he spend?

20. Lora spends $2.64 on stamps and $1.39 on envelopes. How much does she spend?

15-4

Homework Practice

Add Decimals

Add.

1. 0.5  
   + 0.3

2. 4.3  
   + 5.42

3. $9.32  
   + 4.98

4. 0.9  
   + 0.7

5. 0.78  
   + 8.56

6. $12.61  
   + 6.50

7. 1.5  
   + 0.7

8. 11.47  
   + 10.78

9. $13.01  
   + 5.12

10. 42.31 + 8.77

11. 6.4 + 4.2 + 2.7

12. 52.89 + 48.24

13. 4.2 + 3.33 + 8.1

14. $46.75 + $17.17

15. 7.1 + 2.54 + 3.48

Solve. Use the work backward strategy. (Lesson 15-3)

16. A number is multiplied by 4. Then 7 is subtracted from the product. Finally the result is divided by 3. The result is 7. What is the number?

17. Pedro took 15 minutes to walk home. He played basketball for 30 minutes. Then he ate a snack for 20 minutes. Finally he sat down to start his homework at 4:00 P.M. What time did he leave school?

18. Marissa has 5 times as many pairs of socks as DVDs. She has 4 more DVDs than computer games. She has half as many computer games as baseball caps. If she has 6 baseball caps, how many pairs of socks does she have?
Problem-Solving Practice

Add Decimals

Solve.

1. Talia walked 0.36 miles to the store. Then she walked 2.3 more miles to her grandmother’s house. How many miles did she walk in all? ____________

2. A small puzzle costs $2.06. A large puzzle costs $3.21. How much would you pay for both puzzles? ______

3. Iris wants to buy a model airplane kit that costs $6.29. She also wants to buy a model car kit that costs $3.89. How much will she pay for both model kits?

___________________________

4. A ribbon company produces 31.46 meters of silk ribbon per hour and 2.19 meters of velvet ribbon per hour. In all, how many meters of ribbon do they produce in an hour?

___________________________

5. The Winters family is going to a museum. It costs $0.90 for a round-trip bus ticket. It costs $8.75 for a monthly bus pass. Mr. Winters buys a monthly bus pass into the city for himself and his wife because they use them to go to work. He buys his two children round-trip tickets for that day. How much did he pay for his bus tickets?

___________________________

6. On Monday, Ms. Tipton braided 7.32 yards of material for a handmade rug during her regular work hours. She braided another 0.97 yard when she worked an hour of overtime. How much material did she braid on Monday?

___________________________
1. The Eiffel Tower opened in 1889. Since that time more than 200 million visitors have climbed the tower while in Paris, France. Add up all the number of visitors between 2000 and 2005. (Hint: Be sure to line up the decimal points.)


2. The Tower of London, located on the Thames River, is more than 900 years old and has had about 3 million visitors. Add up all the numbers of visitors between 2000 and 2005. (Hint: Be sure to line up the decimal points.)

2000—0.7 million, 2001—0.65 million, 2002—0.78 million, 2003—0.79 million, 2004—0.8 million, 2005—0.72 million

3. How many more people visited the Eiffel Tower than the Tower of London between 2000 and 2005?
There are many ways to solve most math problems. You will decide which strategy works best for you when you read the problems.

**Problem-Solving Strategies**

- Solve a simpler problem
- Use logical reasoning
- Draw a picture
- Make a model
- Work backward

James, Abigail, and Chris each play soccer. James’s jersey is not blue. Abigail’s jersey is not blue or black. Neither of Chris’s two jerseys are green. The color of James’s jersey does not begin with $r$ or $g$.

### Understand

You know that James has one jersey that is not blue, and the name of the color does not begin with $r$ or $g$. Abigail has one jersey that is not blue or black. Chris has two jerseys that are not green. You need to find out which color jersey belongs to each person.

### Plan

Choose a strategy.

You have pieces of information that can help you figure out the correct answer. You will use logical reasoning to figure out the answer.

### Solve

Use the pieces of information you have to help you figure out which color jersey each player has. Write yes or no for each piece of information you have. Once you have a yes in a square, you can fill in the rest of the row and column with nos (except for Chris, who has two jerseys):

<table>
<thead>
<tr>
<th></th>
<th>red</th>
<th>blue</th>
<th>black</th>
<th>green</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>James</strong></td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td><strong>Abigail</strong></td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td><strong>Chris</strong></td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

### Check

Check to see if you are correct:

The solution matches the facts given in the problem. So, you know your answer is correct.
Use any strategy shown below to solve.
Tell what strategy you used.

- Solve a simpler problem
- Use logical reasoning
- Draw a picture
- Make a model
- Work backward

1. The R train comes every 42 minutes. The next time the R train will arrive is 10:23 A.M. What time did the R train last come?

Strategy: _______________________________ 

2. The number of acorns on the sidewalk doubles every 6 hours. After 1 day, there are 96 acorns. How many were there at the beginning of the day? _____________

Strategy: _______________________________ 

3. Tim bought 4 books for $16. If each book costs the same amount, how much would 15 books cost?

Strategy: _______________________________ 

4. Two numbers have a product of 48 and a difference of 8. What are these two numbers? _____________

Strategy: _______________________________ 

5. Ashley takes care of her neighbor’s pets for $3.50 a day. How many days would she need to work to earn $31.50? _____________

Strategy: _______________________________
Skills Practice
Problem-Solving Investigation

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

• Solve a simpler problem  • Make a model
• Use logical reasoning  • Work backward
• Draw a picture

1. Kevin’s favorite radio station plays his favorite song every 56 minutes. If he heard it at 4:12 P.M., when will the station play the song again? ___________
   Strategy: ___________________________________________________________________

2. Haley spent $6.45 at lunch. Then she repaid her brother $4.27. Now she has $9.18. How much money did she start with?
   __________________________________________
   Strategy: ___________________________________________________________________

3. Two numbers have a product of 56 and a difference of 10.
   What are these two numbers? __________
   Strategy: ___________________________________________________________________

4. Hannah and Madison have a leaf collection. Hannah collects three times as many leaves as Madison each day. After 4 days, Madison has 48 leaves. How many leaves per day does Hannah collect?
   __________________________________________
   Strategy: ___________________________________________________________________

5. William, Joe, and Nicole each like running, biking, or swimming. Nicole does not like to wear shoes while exercising. William does not like wearing a helmet. Which sport does each friend like?
   __________________________________________
   __________________________________________
   Strategy: ___________________________________________________________________
Homework Practice

Problem-Solving Investigation

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

- Solve a simpler problem
- Use logical reasoning
- Draw a picture
- Make a model
- Work backward

1. Eric buys a ticket to the basketball game for $15. The bus fare to the game and home is $3.50. Snacks at the game cost $6.37. If Eric has $30, how much change will Eric have when he comes home? ________
   Strategy: ____________________________________________

2. Drew spent 20 minutes completing his reading homework. He spent twice as long on science homework. He spent 10 minutes less on his math homework than he did on his science homework. How long did he spend on all of his homework? ________
   Strategy: ____________________________________________

Spiral Review

Add. (Lesson 15–4)

3. 0.4 + 0.2 = ________
4. 1.8 + 0.4 = ________
5. 0.56 + 7.43 = ________
6. 0.8 + 0.5 = ________
7. 3.7 + 6.37 = ________
8. 13.28 + 11.12 = ________
9. 39.62 + 7.24 = ________
10. $37.53 + $18.64 = ________
11. 53.71 + 33.87 = ________
12. 5.3 + 3.8 + 1.9 = ________
Enrich

Tall Story Problem

These decimal numbers dwell in buildings that are one story, two stories, or three stories tall.

The buildings all over town follow the same pattern.

1. On which floor does the number 0.25 live?

   - 1st floor
   - 2nd floor
   - 3rd floor

Explain your thinking.

2. Describe the kinds of numbers that live on the third floor.

3. Describe the kinds of numbers that live on the second floor.
Reteach

Subtract Decimals

You can use models to help you subtract decimals.

Find $1.7 - 1.59$.

### Using Models

Color 1.7. Cross out 1.59. Count the number of squares not crossed out.

### Using Paper and Pencil

Subtract each place. Regroup if necessary.

$$6.10$$
$$1.70$$
$$- 1.59$$
$$0.11$$

Write zero as a place holder.

Subtract. Use the space below to draw 10-by-10 grids to help you.

1. $1.8 - 1.2 = \underline{\quad}$
2. $0.9 - 0.5 = \underline{\quad}$
3. $1.25 - 0.18 = \underline{\quad}$
4. $0.8 - 0.25 = \underline{\quad}$
5. $1.35 - 1.08 = \underline{\quad}$
6. $1.7 - 0.48 = \underline{\quad}$
7. $0.5 - 0.05 = \underline{\quad}$
8. $1.65 - 1.3 = \underline{\quad}$
Subtract.

1. $0.7 - 0.4 = 0.3$
2. $6.3 - 0.7 = 5.6$
3. $9.1 - 2.3 = 6.8$
4. $4.5 - 2.7 = 1.8$
5. $1.2 - 0.7 = 0.5$
6. $0.43 - 0.26 = 0.17$
7. $0.44 - 0.22 = 0.22$
8. $7.04 - 3.66 = 3.38$
9. $15.03 - 3.12 = 11.91$
10. $4.12 - 1.27 = 2.85$
11. $9.00 - 0.09 = 8.91$
12. $7.17 - 2.70 = 4.47$
13. $9.04 - 7.50 = 1.54$
14. $6.00 - 4.70 = 1.30$
15. $8.20 - 4.96 = 3.24$
16. $5.34 - 4.67 = 0.67$

21. $6.7 - 2.4 = 4.3$
22. $7.6 - 2.07 = 5.53$
23. $8.5 - 3.08 = 5.42$
24. $9.03 - 3.77 = 5.26$
25. $7.44 - 3.86 = 3.58$
26. $4.62 - 2.88 = 1.74$

Solve.

27. Kellyn buys a game for $15.86. What is her change from a $20-bill? $4.14$
28. Christine buys a pair of socks for $8.35. What is her change from a $10-bill? $1.65$
29. Matt buys a pencil for $0.35, a pen for $2.75, and a ruler for $4.36. What is his change from a $20-bill? $21.56$
Homework Practice

Subtract Decimals

Subtract.

1. \[3.6 - 2.3\]
2. \[4.2 - 1.6\]
3. \[5.4 - 4.8\]
4. \[6.9 - 2.54\]
5. \[8.22 - 4.49\]
6. \[$8.15 - 5.81\]
7. \[12.32 - 9.76\]
8. \[$15.76 - 11.38\]
9. \[19.65 - 13.42\]
10. \[$21.07 - 14.19\]
11. \[41.26 - 19.72\]
12. \[55.55 - 22.66\]

Spiral Review  (Lesson 15–5)

Use any strategy shown below to solve.

Tell what strategy you used.

- Use logical reasoning
- Draw a picture
- Make a model
- Work backward
- Solve a simpler problem

13. Cody earns money selling lemonade. He earned $14.55 the first week, $11.75 the second week, $18.54 the last week. How much money did he make selling lemonade? _________

   Strategy: ________________________________

14. Samantha has 15 packages of 12 plates. How many plates does she have? _____________

   Strategy: ________________________________
Problem-Solving Practice

Subtract Decimals

Solve.

1. Petra has $1.78 in her pocket. She spends $0.25 on a banana. How much money does she have left?

2. Abu weighs his book bag. It weighs 11.65 pounds. He takes out the dictionary and weighs it. The dictionary weighs 3.31 pounds. If he leaves the dictionary out, how much will the book bag weigh?

3. Celia has $16.41 saved. She wants to buy a book that costs $8.56. If she buys the book, how much money will she have left?

4. Andrea buys a roll of ribbon that is 13.85 meters long. She needs 2.9 meters of ribbon to decorate a picture frame. How much ribbon will she have left?

5. The computer game that Parker wants to buy costs $21.07 with tax. He has $17.86. How much more money does he need to buy the game?

6. Clarissa uses 12.06 meters of string to weave a big bag. She uses 9.14 meters of string to weave a smaller bag. How much more string does she use for the big bag?
Enrich
Right on Target

Subtract the decimal in the center from each decimal in the middle ring. Write the answers in the outer ring. Be sure to line up the decimal points.

1. 0.5
   1.0 2.3
   0.86 0.6

2. 0.62
   1.0 3.41
   0.9 0.75

3. 0.25
   1.0 2.5
   3.25 4.7

4. 0.08
   1.0 6.21
   0.5 0.88
### Individual Progress Checklist

<table>
<thead>
<tr>
<th>B</th>
<th>D</th>
<th>M</th>
<th>Goal</th>
<th>Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Round decimals.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Estimate decimal sums and differences.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Add simple decimals.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Subtract simple decimals.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Solve problems by working backward.</td>
<td></td>
</tr>
</tbody>
</table>

### Notes

-
-
-
Round each number to the indicated place value. Write your answer on the line provided.

1. 754
2. 1,328
3. 44,325

4. Antonio has $1,678 in his bank account. To the nearest thousand, about how much money does he have in his bank account?

Write a decimal for the shaded part of each figure.

5. ________
6. ________
7. ________
8. ________

Graph each decimal on a number line.

9. 0.25
10. 0.46
Round to the nearest whole number.

1. 7.82
2. 83.25
3. 1.78
4. 55.59

Round to the nearest tenth.

5. 32.81
6. 31.67
7. 98.94
8. 49.65

Estimate. Round to the nearest whole number.

9. 28.79 – 13.21
10. 75.2 + 8.6
11. 33.3 + 12.7
12. 45.91 + 21.59

Add or subtract.

13. 12.78 + 83.45
14. 42.11 – 37.67
15. 54.54 – 24.34
16. 17.98 + 56.03 + 10.83
Quiz 1 (Lessons 15-1 through 15-2)

Round to the nearest whole number.

1. 8.27

Round to the nearest tenth.

2. 2.18

3. 7.73

Estimate. Round to the nearest whole number.

4. 4.6 + 5.2

5. 6.3 + 11.5

6. $2.64 + \$8.32

Round to the nearest whole number.

7. One of the largest diamonds in the world is the Hope Diamond at 45.52 carats. About how large is this diamond?

8. Yesterday, the average bank was paying 2.63 percent interest. About how much interest was the average bank paying?
Quiz 2 (Lessons 15-3 through 15-4)

Add.

1. $0.6 + 0.3$
2. $1.1 + 0.4$
3. $6.3 + 4.7$
4. $11.7 + 5.45$
5. $33.54 + 41.22$
6. $\$52.67 + \$28.34$

Solve. Use the work backward strategy.

7. It takes Jared 7 minutes to mix the cookies, 12 minutes to roll them out, and 13 minutes to cook them. If he needs the cookies finished by 4:15, what time must he start?

8. Maria paid $2.25 for her bus ride. Her friend repaid her $5.43. Now she has $10.76. How much money did she start with?
Quiz 3  (Lessons 15-5 through 15-6)

Subtract.

1. $0.8 - 0.2$

2. $2.5 - 1.3$

3. $9.6 - 3.42$

4. $11.81 - 5.6$

5. $13.21 - 9.57$

6. $44.67 - 19.54$

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

- Solve a simpler problem
- Make a model
- Use logical reasoning
- Work backward
- Draw a picture

7. Customers voted on their favorite topping for pizza. Three out of ten customers voted for green peppers. There were 400 customers. How many customers voted for green peppers? ________________

   Strategy: _________________________________

8. Two numbers have a product of 45 and a difference of 12. What are these two numbers? ________________

   Strategy: _________________________________

   _________________________________
Mid-Chapter Review (Lessons 15-1 through 15-4)

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

1. The tallest tree in my neighborhood is 414.84 inches tall. What is the height of the tree rounded to the nearest whole number?
   A. 400  B. 400.1  C. 415  D. 420.6  1. _________

2. Austin walked 3.45 miles Friday. He walked 4.23 miles Saturday, and 3.71 miles Sunday. To the nearest whole number, about how many miles did he walk in three days?
   F. 15  G. 11.5  H. 11  J. 7  2. _________

Round to the nearest whole number.

3. 7.43  3. _________

4. 12.55  4. _________

5. 27.47  5. _________

Round to the nearest tenth.

6. 4.74  6. _________

7. 8.95  7. _________

8. 14.16  8. _________

Estimate. Round to the nearest whole number.

9. 8.8 + 6.3  9. _________

10. $12.58 − $6.22  10. _________

11. 14.36 + 9.7  11. _________

12. 35.7 − 7.42  12. _________

Solve. Use the work backward strategy.

13. Marcus has twice as many books as cars. He has 15 more cars than airplanes. If he has 4 airplanes, how many books does he have?
   13. _________

14. A number is divided by 4. Then 6 is added to the quotient. Finally the sum is multiplied by 3. The product is 27. What is the number?
   14. _________
Using the word bank below, complete each sentence by writing the correct word or words in the blank.

- decimal
- decimal point
- sum
- difference
- round
- estimate

1. A ________________ is the answer to an addition problem.

2. A ________________ is a period separating the ones and the tenths in a number.

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

4. An ________________ is a number close to an exact value.

5. The ________________ is an answer to a subtraction problem.

6. To ________________ is to change the value of a number to one that is easier to work with.
Set up a pretend store. Collect the following items from the classroom:
(1) a book; (2) a hall pass; (3) a box of chalk; (4) a box of crayons;
and (5) a pencil—case. Make up prices in decimal form to attach to
each item.

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

1. How much is it for a pencil—case and a box of crayons?

2. How much is it for a book and a box of chalk?

3. Tell how you got your answer.

4. How much is it for everything?

5. How much is it for a box of crayons and a box of chalk?

6. Explain your answer.
Mrs. Fouse’s Class

<table>
<thead>
<tr>
<th>Student</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jamie</td>
<td>92.78</td>
</tr>
<tr>
<td>Scott</td>
<td>84.67</td>
</tr>
<tr>
<td>Mario</td>
<td>84.21</td>
</tr>
<tr>
<td>Deja</td>
<td>77.86</td>
</tr>
<tr>
<td>Michelle</td>
<td>78.45</td>
</tr>
</tbody>
</table>

8. Who has the highest grade? ________

9. To the nearest whole number, who earned a higher score, Scott or Mario? ________

10. Tell how you got your answer.

11. To the nearest whole number, which two students earned the same grade? __________________________

12. Explain your answer. ____________________________________________________________

13. In order for Jamie to earn an A, she must achieve a 93.0 or above. Mrs. Fouse rounds her students’ grades according to the rounding rules. Will Jamie get an A for the quarter? ________

14. Tell how you got your answer.

________________________________________________________

________________________________________________________
## Chapter Project Rubric

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

### Decimals: Addition and Subtraction
Three-Pocket Foldables

<table>
<thead>
<tr>
<th>Score</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>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.</td>
</tr>
<tr>
<td>2</td>
<td>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.</td>
</tr>
<tr>
<td>1</td>
<td>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.</td>
</tr>
<tr>
<td>0</td>
<td>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.</td>
</tr>
</tbody>
</table>
Read each question carefully. Write your answer on the line provided.

Round to the nearest whole number.

1. 5.63
   A. 3  B. 4  C. 5  D. 6  1. ____

2. $7.44
   F. $4  G. $6  H. $7  J. $8  2. ____

Round to the nearest tenth.

3. 34.68
   A. 34.6  B. 34.7  C. 34.8  D. 35  3. ____

4. 3.05 feet
   F. 3.0 feet  G. 3.01 feet  H. 3.1 feet  J. 3.5 feet  4. ____

Estimate. Round to the nearest whole number.

5. \[ \begin{align*}
   0.8 & + 13.3 \\
   \ hline
   A. 12 & B. 13 & C. 14 & D. 15
\end{align*} \]
   5. ____

6. \[ \begin{align*}
   15.62 & - 7.83 \\
   \ hline
   F. 8 & G. 7 & H. 8 & J. 9
\end{align*} \]
   6. ____

Estimate by rounding to the nearest whole number. Then compare. Use >, <, or =.

7. \[ \begin{align*}
   9.08 & - 1.59 \bigcirc 3.54 & + 4.23 \\
   \ hline
   A. > & B. < & C. = 
\end{align*} \]
   7. ____

8. \[ \begin{align*}
   8.6 & + 8.11 \bigcirc 10.38 & + 7.49 \\
   \ hline
   F. > & G. < & H. = 
\end{align*} \]
   8. ____
Add.

9. \[0.73 + 0.48\]
   \[\text{A. 1.12} \quad \text{B. 1.121} \quad \text{C. 1.21} \quad \text{D. 1.211}\]

10. \[39.7 + 0.64\]
    \[\text{F. 39.06} \quad \text{G. 40.34} \quad \text{H. 46.1} \quad \text{J. 103.7}\]

Subtract.

11. \[6.7 - 0.9\]
    \[\text{A. 5.2} \quad \text{B. 5.8} \quad \text{C. 6.6} \quad \text{D. 6.8}\]

12. \[8.2 - 0.47\]
    \[\text{F. 6.37} \quad \text{G. 6.73} \quad \text{H. 7.73} \quad \text{J. 7.83}\]

Solve.

13. Harold bicycled 7.2 miles on Monday, 6.4 miles on Wednesday, and 8.8 miles on Friday. How many miles did he bicycle all together?
   \[\text{A. 22.5 miles} \quad \text{B. 22.4 miles} \quad \text{C. 21.4 miles} \quad \text{D. 21.3 miles}\]

14. Irene earns $0.75 each time she takes out the trash. In April, Irene took out the trash 2 more times than she did in May. If Irene earned $1.50 for taking out the trash in May, how much did she earn for taking out the trash in April?
   \[\text{F. $3.00} \quad \text{G. $2.75} \quad \text{H. $2.25} \quad \text{J. $1.50}\]

15. The Lazo family’s patio was 8.3 meters long. They extended it so that it measured 12.9 meters long. By how many meters did they extend their patio?
   \[\text{A. 3.6} \quad \text{B. 4.6} \quad \text{C. 4.8} \quad \text{D. 5.2}\]
Read each question carefully. Write your answer on the line provided.

Round to the nearest whole number.

1. 4.82
   A. 3    B. 4    C. 5    D. 6
   1. ___

2. $16.43
   F. $14    G. $15    H. $16    J. $17
   2. ___

Round to the nearest tenth.

3. 21.19
   3. ___

4. 9.04 meters
   F. 9.0 meters    H. 9.1 meters
   G. 9.01 meters    J. 9.4 meters
   4. ___

Estimate. Round to the nearest whole number.

5. 1.3
   + 8.6
   ___
   A. 9    B. 10    C. 11    D. 12
   5. ___

6. $21.80
   $8.33
   ___
   F. $13    G. $14    H. $15    J. $16
   6. ___

Estimate by rounding to the nearest whole number. Then compare. Use >, <, or =.

7. 11.89 − 3.61 ___ 5.09 + 3.45
   A. >    B. <    C. =
   7. ___

8. 7.8 + 6.51 ___ 10.35 + 3.66
   F. >    G. <    H. =
   8. ___
Add.

9. \[ 9.04 + 4.87 \]
\[ \text{A. 13.01} \quad \text{B. 13.91} \quad \text{C. 14.01} \quad \text{D. 14.91} \quad 9. \quad \]

10. \[ 32.17 + 0.05 \]
\[ \text{F. 32.32} \quad \text{G. 32.22} \quad \text{H. 32.2} \quad \text{J. 32.02} \quad 10. \quad \]

Subtract.

11. \[ 5.4 - 2.7 \]
\[ \text{A. 2.4} \quad \text{B. 2.7} \quad \text{C. 3.3} \quad \text{D. 3.7} \quad 11. \quad \]

12. \[ 7.5 - 0.88 \]
\[ \text{F. 6.32} \quad \text{G. 6.52} \quad \text{H. 6.62} \quad \text{J. 7.62} \quad 12. \quad \]

Solve.

13. A bus travels 2.4 miles to the first stop, 3.7 miles to the second stop, and 5.2 miles to the third stop. How many miles does the bus travel altogether?
\[ \text{A. 11.3 miles} \quad \text{B. 10.7 miles} \quad \text{C. 10.3 miles} \quad \text{D. 9.7 miles} \quad 13. \quad \]

14. David bought a CD for $14.39 and a magazine for $6.72. How much more did he spend on the CD?
\[ \text{F. $6.67} \quad \text{G. $7.57} \quad \text{H. $7.67} \quad \text{J. $7.77} \quad 14. \quad \]

15. On his tenth birthday, Kyle was 57.8 inches tall. On his eleventh birthday, Kyle was 59.2 inches tall. By how many inches did Kyle grow between his tenth and eleventh birthdays?
\[ \text{A. 2.6 inches} \quad \text{B. 2.4 inches} \quad \text{C. 1.6 inches} \quad \text{D. 1.4 inches} \quad 15. \quad \]
Read each question carefully. Write your answer on the line provided.

Round to the nearest whole number.

1. $14.58
   A. $15  B. $16  C. $17  1. ____

2. 3.21
   F. 3  G. 4  H. 5  2. ____

Round to the nearest tenth.

3. 6.92 inches
   A. 8.1 inches  B. 7.9 inches  C. 6.9 inches  3. ____

4. 32.75
   F. 32.6  G. 32.7  H. 32.8  4. ____

Estimate. Round to the nearest whole number.

5. 1.6 + 4.5
   A. 5  B. 6  C. 7  5. ____

6. $32.09 + $6.41
   F. $40  G. $39  H. $38  6. ____

Estimate. Round to the nearest whole number.
Then compare. Use >, <, or =.

7. 10.8 + 4.30  9.60 + 5.75
   A. >  B. <  C. =  7. ____

8. 4.36 + 2.10  7.21 − 2.98
   F. >  G. <  H. =  8. ____
Chapter Test, Form 2B  (continued)

Add.

9.  $36.04  
    +  $6.22  
    \[ \text{A.}  \quad $42.26 \quad \text{B.}  \quad $42.28 \quad \text{C.}  \quad $52.26 \]

10. 12.17  
      +  0.05  
      \[ \text{F.}  \quad 12.32  \quad \text{G.}  \quad 12.22  \quad \text{H.}  \quad 12.02 \]

Subtract.

11.  $52.28  
      –  $9.07  
      \[ \text{A.}  \quad $53.21  \quad \text{B.}  \quad $44.21  \quad \text{C.}  \quad $43.21 \]

12. 9.5  
     –  0.77  
     \[ \text{F.}  \quad 8.73  \quad \text{G.}  \quad 8.83  \quad \text{H.}  \quad 9.73 \]

Solve. Look at the table.

13. | Miles Marvin Walked Each Day |  
    | Monday       | 1.4 miles         |  
    | Tuesday      | 2.7 miles         |  
    | Wednesday    | 4.2 miles         |  

How many miles did Marvin walk in all?
\[ \text{A.}  \quad 10.3 \text{ miles} \quad \text{B.}  \quad 9.3 \text{ miles} \quad \text{C.}  \quad 8.3 \text{ miles} \]

14. | Carlos’ Height Chart |  
    | July       | 56.9 inches     |  
    | December   | 57.5 inches     |  

How many inches did Carlos grow?
\[ \text{F.}  \quad 0.6 \text{ inch}  \quad \text{G.}  \quad 1.6 \text{ inches} \quad \text{H.}  \quad 1.8 \text{ inches} \]

15. Jerome bought a DVD for $16.98 and a book for $5.92. How much more did he spend on the DVD?
\[ \text{A.}  \quad $12.06  \quad \text{B.}  \quad $11.56  \quad \text{C.}  \quad $11.06 \]

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

Round to the nearest whole number.
1. $16.15  
2. 4.77

Round to the nearest tenth.
3. 9.48 miles
4. 21.17

Estimate. Round to the nearest whole number.
5. $21.80 − $8.27
6. 1.2 + 8.9

Estimate by rounding to the nearest whole number. Then compare. Write >, <, or =.
7. 7.6 − 3.89  □ 9.6 − 5.6
8. 7.8 + 6.51  □ 6.8 + 4.9

Add.
9.  
   3.7 
   + 52.45
   
   56
Chapter Test, Form 2C  (continued)

10.  $72.48  
     + $6.27  

11.  31.06  
     – 7.7

12.  $23.46  
     – $9.07

13. Javier bought a CD for $15.79 and a puzzle for $9.07. How much more did he spend on the CD?

14. A gym class ran 100-meter dash. Sandra’s time was 1.3 seconds slower than Marta’s time. Marta’s time was 2.04 seconds slower than Denise’s time. Denise’s time was 19.12 seconds. What was Sandra’s time?

15. On his tenth birthday, Jon was 58.2 inches tall. On his eleventh birthday, Jon was 59.7 inches tall. By how many inches did Jon grow between his tenth and eleventh birthdays?
Read each question carefully. Write your answer on the line provided.

Round to the nearest whole number.
1. 3.78
2. $12.06

Round to the nearest tenth.
3. 40.16
4. 7.42 meters

Estimate. Round to the nearest whole number.
5. \[\begin{array}{c}
5.3 \\
+ 6.6
\end{array}\]
6. $21.80 \\
- $4.53

Estimate. Round to the nearest whole number.
Then compare. Write >, <, or =.
7. 10.89 \(\bigcirc\) 4.09 + 2.45
8. 3.8 + 6.51 \(\bigcirc\) 10.35 + 1.66

Add.
9. 12.17 + 0.08
10. 7.04
    + 2.87
    ______
10. _______

Subtract.
11. 8.4
    – 3.7
    ______
11. _______

12. 14.27
    – 6.35
    ______
12. _______

Solve.
13. Rosa bought some flowers for $8.49 and a bookmark for $3.75. How much more did she spend on the flowers?
13. _______

14. Look at the table.

<table>
<thead>
<tr>
<th>Pablo’s Height Chart</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
</tr>
<tr>
<td>December</td>
</tr>
</tbody>
</table>

How many inches did Pablo grow?
14. _______

15. Look at the table.

<table>
<thead>
<tr>
<th>Miles Thomas Runs Each Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
</tr>
<tr>
<td>Tuesday</td>
</tr>
<tr>
<td>Wednesday</td>
</tr>
</tbody>
</table>

How many miles did Thomas run in all?
15. _______
Chapter Test, Form 3

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

1. Round $17.59 to the nearest dollar.

2. A car travels 31.08 miles for each gallon of gasoline it burns. Round 31.08 to the nearest mile per gallon.

3. A sequoia cactus measures 311.07 inches tall. Round 311.07 to the nearest tenth of an inch.

4. Express $\frac{22}{100}$ as a decimal rounded to the nearest tenth.

Estimate. Round to the nearest whole number.

5. $56.70 - $9.49

6. 11.04 + 78.6

Estimate by rounding to the nearest whole number. Then compare. Write $>$, $<$, or $=$.

7. $36.16 - 11.50 \bigcirc 10.58 + 12.67$

8. $73.8 + 6.31 \bigcirc 99.56 - 21.39$

Add.

9. 11.07
   $+ 8.45$

10. 1,482.37 + 0.09
Subtract.

11. \[21.8 - 4.27\]

12. \[\$351.31 - \$5.80\]

Solve.

13. Sydney earns $20 for helping take care of her niece. With this money, Sydney buys an art book for $12.95 and a drawing pad for $4.39. How much money does Sydney have left?

14. A gym class competed in a 400-meter race. Soto’s time was 2.09 seconds faster than Nahimana’s time. Nahimana’s time was 7.8 seconds faster than Ahmed’s time. If Ahmed’s time was 76 seconds, what was Soto’s time?

15. Three students measure their heights. Ryan is 56.89 inches tall, Elena is 55.78 inches tall, and Kesia is 55.07 inches tall. What is the difference in height between the shortest and tallest student?
Chapter Extended-Response Test

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.

The table below shows the population of the 5 largest cities in California.

<table>
<thead>
<tr>
<th>City</th>
<th>Population (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Los Angeles</td>
<td>3.96</td>
</tr>
<tr>
<td>San Diego</td>
<td>1.30</td>
</tr>
<tr>
<td>San Jose</td>
<td>0.94</td>
</tr>
<tr>
<td>San Francisco</td>
<td>0.79</td>
</tr>
<tr>
<td>Long Beach</td>
<td>0.49</td>
</tr>
</tbody>
</table>

1. What is the population difference between the most populated and least populated cities on the list?

2. How much more populated is San Jose than San Francisco?

3. How much more populated is San Diego than San Jose?

4. Would it be reasonable to say that Los Angeles has more people than the other four cities combined? Explain your reasoning.
Use this recording sheet with pages 626–627 of the Student Edition.

Read each question. Then fill in the correct answer.

1.  A  B  C  D

2.  F  G  H  J

3.  A  B  C  D

4.  F  G  H  J

5.  A  B  C  D

6.  F  G  H  J

7.  A  B  C  D

8.  F  G  H  J

9.  A  B  C  D

10. F  G  H  J
Test Example

Corrina walked 1.5 miles on Tuesday and 1.2 miles on Wednesday. How many miles did she walk altogether?

A. 2.7  B. 3.7  C. 4.0  D. 5.0

Read the Question
You need to add to find the number of miles walked.

Solve the Question

Step 1 Line up the decimal points.

\[ \begin{align*}
1.5 \\
+ 1.2 \\
\hline
2.7
\end{align*} \]

Step 2 Add. Regroup if needed.

\[ \begin{align*}
1.5 \\
+ 1.2 \\
\hline
2.7
\end{align*} \]

So, the answer is A.

Choose the best answer.

1. Benito had $4.00. He bought a sandwich for $2.39 and an apple for $0.79. How much money did he have left?
   A. $0.82  B. $0.99  C. $1.25  D. $4.18

2. Lucy got her hair cut. When she arrived at the hairdresser, her hair was 78.6 centimeters long. When she left, it was 24.5 centimeters long. How much of her hair did the hairdresser take off?
   F. 54.1 cm  G. 67.9 cm  H. 87.3 cm  J. 103.1 cm

3. Julie bought a baseball for $8.95 and a baseball glove for $15.45. Which is the closest estimate of the total amount Julie spent?
   A. $23  B. $24  C. $32  D. $45

4. What is 46.19 rounded to the nearest tenth?
   F. 46.1  G. 46.2  H. 47  J. 55.0
5. Timothy has $80. He bought the items shown.

If he rounds each amount to the nearest whole number, about how much change should he receive?

A. $7  
B. $8  
C. $12  
D. $15  

5. ____

6. During one week, Tyson walked 3.2 miles. The following week, he walked 4.8 miles. About how much farther did Tyson walk the following week?

F. 2 miles  
G. 4 miles  
H. 6 miles  
J. 7 miles  

6. ____

7. Which point on the number line is greater than 8.5 and less than 9.0?

A. A  
B. B  
C. C  
D. D  

7. ____

8. Andrew earns $41.75 each week babysitting. To the nearest ten dollars, about how much will he earn in 4 weeks?

F. $100  
G. $140  
H. $160  
J. $200  

8. ____

9. Which group of numbers are all prime numbers?

A. 2, 6, 9  
B. 2, 3, 13  
C. 4, 6, 8  
D. 4, 6, 10  

9. ____
10. The table shows the number of visitors at the swim center. How many visitors went to the swim center in July and August?

<table>
<thead>
<tr>
<th>Month</th>
<th>Number of Visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>May</td>
<td>453</td>
</tr>
<tr>
<td>June</td>
<td>897</td>
</tr>
<tr>
<td>July</td>
<td>965</td>
</tr>
<tr>
<td>August</td>
<td>1097</td>
</tr>
</tbody>
</table>

F. 1,350  G. 1,862  H. 1,994  J. 2,062  10. _________

11. Desta lives 24.5 miles from the amusement park. Abby lives 34.9 miles from the amusement park. How much farther does Abby live from the amusement park?

12. Amanda is 56.2 inches tall. Taye is 52.1 inches tall. What is the total height of the two children?

13. Kellie went to the fruit stand and bought a bag of apples for $4.67, a carton of homemade orange juice for $2.19, and a bag of peaches for $3.98. What is the closest estimate of the total amount Kellie spent?

14. What is 45.21 rounded to the nearest tenth?

15. What is 56.78 rounded to the nearest tenth?

16. Which point on the number line is greater than 7.5 and less than 7.8?

17. Noah earns $32.75 a week cutting grass. To the nearest ten dollars, about how much will he earn in 3 weeks?

18. What is 45.77 rounded to the nearest whole number?

19. What is 23.45 rounded to the nearest whole number?
### Graphic Organizer

Use this graphic organizer to take notes on Chapter 15: Decimals: Addition and Subtraction.

Fill in the missing section of the graphic organizer.

<table>
<thead>
<tr>
<th>Vocabulary</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>decimal</td>
<td>A number with one or more digits to the right of the decimal point.</td>
<td>$2.05</td>
</tr>
<tr>
<td>decimal point</td>
<td>A period separating the ones and the tenths in a number.</td>
<td>0.8</td>
</tr>
<tr>
<td>sum</td>
<td>The answer to an addition problem.</td>
<td>In $2 + 5 = 7$, 7 is the sum.</td>
</tr>
<tr>
<td>difference</td>
<td>The answer to a subtraction problem.</td>
<td>In $5 - 2 = 3$, 3 is the difference.</td>
</tr>
<tr>
<td>round</td>
<td>To change the value of a number to one that is easier to work with.</td>
<td>21 can be rounded to 20.</td>
</tr>
<tr>
<td>estimate</td>
<td>A number close to an exact value; an estimate indicates about how much.</td>
<td>An estimate for $24.99 is $25.</td>
</tr>
</tbody>
</table>

### Anticipation Guide

#### Decimals: Addition and Subtraction

**STEP 1** Before you begin Chapter 15

- 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>Statement</th>
<th>STEP 2 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. $3.45 is an example of a decimal.</td>
<td>[A]</td>
</tr>
<tr>
<td>3. 325 is an example of a decimal.</td>
<td>[D]</td>
</tr>
<tr>
<td>4. A sum is an answer to an addition problem.</td>
<td>[A]</td>
</tr>
<tr>
<td>5. The difference is an answer to a subtraction problem.</td>
<td>[A]</td>
</tr>
<tr>
<td>6. In $8 - 7 = 1$, 1 is the sum.</td>
<td>[D]</td>
</tr>
<tr>
<td>7. In $9 + 4 = 13$, 13 is the difference.</td>
<td>[D]</td>
</tr>
<tr>
<td>8. To round is to change the value of a number to one that is easier to work with.</td>
<td>[A]</td>
</tr>
<tr>
<td>9. An estimate is a number close to an exact value.</td>
<td>[A]</td>
</tr>
<tr>
<td>10. An estimate indicates about how much.</td>
<td>[A]</td>
</tr>
</tbody>
</table>

**STEP 2** After you complete Chapter 15

- 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.
Reteach

Round Decimals

You can use a number line to help you round decimals.

To round a decimal to the nearest whole number, look at the digit in the tenths place. If the tenths digit is 5 or greater, round up to the nearest one. If the tenths digit is less than 5, round down to the nearest one.

To round 8.3 to the nearest whole number. Round 9.8 to the nearest whole number.

Think: 8.3 is closer to 8 than 9. Think: 9.8 is closer to 10 than 9.

So, 8.3 rounds down to 8. So, 9.8 rounds up to 10.

Round to the nearest whole number. Use the number line above to help you.

1. 9.47
2. 3
3. 13.61
4. 93.56
5. 2.8
6. 3.51
7. 25.09
8. 88.48
9. 6.01
10. 4.62
11. 37.8
12. 19.71
13. 18.03
14. 59.26
15. 33.52
16. 91.73

To round to the nearest tenth, look at the digit in the hundredths place. If the hundredths digit is 5 or greater, round up to the nearest tenth. If the hundredths digit is less than 5, round down to the nearest tenth.

Round to the nearest tenth. Use the number line above to help you.

17. 7.24
18. 1.27
19. 12.55
20. 36.97
21. 9.43
22. 3.98
23. 64.93
24. 53.84
25. 6.58
26. 7.24
27. 47.96
28. 19.46
29. 14.06
30. 42.65
31. 78.84
32. 85.76

Solve.

33. A vitamin pill weighs 2.34 grams. What is its mass to the nearest tenth of a gram?

2.3 grams

34. Jason weighs 152.6 pounds. What is his weight to the nearest pound?

153 lb
15–1 Homework Practice
Round Decimals

Round to the nearest whole number.
1. $4.39 \rightarrow 4$
2. $6.56 \rightarrow 7$
3. $17.42 \rightarrow 17$
4. $49.71 \rightarrow 50$
5. $65.32 \rightarrow 65$
6. $80.47 \rightarrow 80$

Round to the nearest tenth.
7. $3.27 \rightarrow 3.3$
8. $8.23 \rightarrow 8.2$
9. $17.46 \rightarrow 17.5$
10. $32.35 \rightarrow 32.4$
11. $59.52 \rightarrow 59.5$
12. $71.88 \rightarrow 71.9$

13. Nick’s largest dog is a Newfoundland. It weighs 156.64 pounds. About how much does Nick’s dog weigh? **157 pounds**
14. Sarah wants to buy a new CD that costs $14.58. About how much money will she need to buy the CD? **$15**

Spiral Review

Use a number line to compare. Write >, <, or =. (Lesson 14-7)
15. $6.2 \quad 6 \frac{1}{2}$
16. $5.4 \quad 5 \frac{1}{2}$
17. $3.7 \quad \frac{3}{4}$

Use a number line to order from greatest to least.
18. $7 \frac{1}{2}; 7.4; 7 \frac{1}{8}; 7.8; 7 \frac{1}{4}; 7.4$
19. $8 \frac{1}{5}; 8.15; 8 \frac{34}{50}; 8.77; 8 \frac{34}{50}; 8.15$

Write the letter that represents the approximate location of each mixed number or decimal.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.</td>
<td>$6 \frac{2}{3}$</td>
<td>C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21.</td>
<td>$6.3$</td>
<td>B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

15–1 Problem-Solving Practice
Round Decimals

Solve.
1. Jennifer spent 6.34 hours at the beach today. Rounded to the nearest whole hour, how long did she spend at the beach? **6 hours**
2. In the 1968 Olympics, Mike Burton from the U.S. swam the 400-meter freestyle race in 4.09 seconds. What is his speed rounded to the nearest tenth? **4.1 seconds**
3. Amy and Kate decide to count the sidewalk squares between their houses. They count exactly 43.34. To the nearest tenth, how many squares are between their houses? **43.3 squares**
4. The record for the discus throw at Westlake High School is 30.58 meters. What is this distance rounded to the nearest whole number? **31 meters**
5. Jon is making a bookshelf unit the exact length of one wall. His measurements show that the wall is 67.07 inches long. If Jon rounds this number to the nearest tenth and cuts pieces of wood that long, how long will each piece of wood be? **67.1 inches**

Will the shelf fit in the room if he does this? **no, it will be too long**

6. In the 2000 Olympics, Marion Jones from the U.S. ran the 200-meter race in 21.84 seconds. At her track meet, Sara runs it in 32.75 seconds. Round each speed to the nearest tenth. **21.8 seconds, 32.8 seconds**
Enrich

Mystery Numbers

Use the clues to solve each riddle. Circle the mystery number.

1. Round me to the nearest whole number. You get 5.
   Round me to the nearest tenth. You get 5.3.
   Round me to the nearest hundredth. You get 5.32.
   What number am I? 5.316
2. Round me to the nearest whole number. You get 12.
   Round me to the nearest tenth. You get 12.5.
   Round me to the nearest hundredth. You get 12.48.
   What number am I? 12.57
3. Round me to the nearest whole number. You get 17.
   Round me to the nearest tenth. You get 16.9.
   Round me to the nearest hundredth. You get 16.94.
   What number am I? 16.937
4. Round me to the nearest whole number. You get 28.
   Round me to the nearest tenth. You get 28.0.
   Round me to the nearest hundredth. You get 28.00.
   What number am I? 27.959
5. Round me to the nearest whole number. You get 124.
   Round me to the nearest tenth. You get 124.4.
   Round me to the nearest hundredth. You get 124.45.
   What number am I? 124.456
6. Round me to the nearest whole number. You get 203.
   Round me to the nearest tenth. You get 203.5.
   The sum of my digits is 20.
   What number am I? 203.456

Create and exchange your own mystery number puzzles with a partner.

Reteach

Estimate Decimal Sums and Differences

To estimate the sums of decimals, round each decimal to the nearest whole number. Then add the rounded numbers.

Estimate. Round to the nearest whole number. Show how you rounded.

1. $5.89 + 4.29$  
   $6.00 + 4.00 = 10.00$
2. $17.3 + 5.67$  
   $17 + 6 = 23$
3. $8.48 + 3.07$  
   $8 + 3 = 11$
4. $6.7 + 3.2$  
   $7 + 3 = 10$
5. $15.95 + 2.59$  
   $16.00 + 3.00 = 19.00$
6. $25.7 + 8.9$  
   $26 + 9 = 35$
7. $14.25 – 7.84$  
   $14 – 8 = 6$
8. $10.97 – 7.4$  
   $11 – 7 = 4$
9. $3.62 – 1.87$  
   $4 – 2 = 2$
10. $10.25 – 3.45$  
    $10.00 – 3.00 = 7.00$
11. $10.54 – 7.81$  
    $11.00 – 8.00 = 3.00$
12. $43.7 – 20.48$  
    $44 – 20 = 24$

Create and exchange your own mystery number puzzles with a partner.
Skills Practice

Estimate Decimal Sums and Differences

Estimate. Round to the nearest whole number.

1. 5.1 + 9.4 = 14
2. 7.45 + 8.56 = 16
3. 26.14 – 12.95 = 13
4. 6.7 + 8.4 = 15
5. 4.32 + 7.59 = 12
6. $34.95 – $12.20 = 14
7. 1.9 + 3.8 = 6
8. 8.57 – 3.52 = 5
9. 25.60 – 11.55 = 14
10. $6.35 + $5.95 = $12

Estimate by rounding to the nearest whole number. Then compare. Use >, <, or =.

11. 17.26 – 13.76 = 3
12. 47.15 – 17.11 = 30
13. 19.76 + 9.55 = 30
14. 77.36 – 15.93 = 61
15. $10.25 + $3.25 = $13
16. $16.12 – $12.80 = $3
17. 19.67 + 9.94 = 30
18. 94.32 – 22.80 = 71
19. 3.75 + 5.24 = 9
20. $54.10 – $34.89 = $19
21. 4.16 + 9.66 = 14
22. 13.4 – 6.79 = 6
23. 2.93 + 6.74 = 10
24. 47.65 – 17.93 = 30

Solve.

35. The odometer on a new car shows 17.7 miles. Sean drives the car 12.9 miles. How many miles does the odometer show now? about 31 miles

36. Nancy ran a total of 5.7 miles today. She ran 3.2 miles this morning. About how many miles did Nancy run this afternoon? about 3 miles

Homework Practice

Estimate Decimal Sums and Differences

Estimate. Round to the nearest whole number.

1. 6.3
2. 3.7
3. 8.2
4. 17.8

Estimate by rounding to the nearest whole number. Then compare. Use >, <, or =.

5. 5.64 + 12.33 > 14.52 + 8.18
7. 9.66 + 9.44 = 13.71 + 5.32
8. 17.53 – 5.31 > 15.45 – 6.54
9. Colin is 3.97 feet tall. Caroline is 3.15 feet tall. To the nearest whole number, how much taller is Colin than Caroline?

1 foot

10. Ricardo has saved $23.46. Jasmine has saved $18.67. To the nearest dollar, about how much more money has Ricardo saved than Jasmine? $4

Spiral Review

Round to the nearest whole number. (Lesson 15–1)

11. 3.26
12. 7.57
13. 18.48
14. 53.61
15. 73.33
16. 88.86

Round to the nearest tenth.

17. 2.1
18. 6.8
19. 19.3
20. 33.5
21. 57.5
22. 88.7

Round to the nearest whole number.

23. Jacob works 143.62 hours a year. Emma works 187.34 hours per year. About how many more hours per year does Emma work than Jacob? 43 hours

24. Michelle’s family is buying pizza for delivery. It will cost $23.54. About how much money will Michelle’s family need? $24
Problem-Solving Practice  15-2

Estimate. Round to the nearest whole number.

1. The train trip from New York, NY, to Washington, D.C., takes 3.4 hours. The trip from New York to Norfolk, VA, takes 7.6 hours. About how much longer does it take to get to Norfolk?  
   about 5 hours

2. Mr. Jones needs a bag of fertilizer and a bag of pine chips for his garden. A bag of fertilizer costs $8.98 and a bag of pine chips costs $5.13 at the garden store. About how much will Mr. Jones pay?  
   about $14

3. Ellie wants to practice skating in a straight line. She chalks a line on the sidewalk that is 15.75 meters long. Then she adds another 14.25 meters to her line. About how long is Ellie’s line now?  
   about 30 meters

4. Nadya has picked up $15.25 worth of art supplies at the hobby store. She puts back a sketch pad that costs $4.98. About how much money will the items cost now?  
   about $10

5. Jeannie wants to buy a jacket that costs $26.83. Her mother agrees to pay $15.50 of the total amount. About how much money does Jeannie need to buy the jacket?  
   about $11

6. Roger spent $43.07 on materials to build a small skate ramp. He spent $76.83 on materials to build a large skate ramp. About how much did Roger spend on the skate ramps altogether?  
   about $120

Enrich  15-2

Off the Shelf

Use estimation skills to choose decimals from the shelf to make each equation true. You may use the numbers on the shelf more than once.

1. $0.41 + 0.05 = 0.46$
2. $1.01 + 2.3 = 3.31$
3. $0.7 - 0.2 = 0.5$
4. $1.01 - 0.89 = 0.12$
5. $1.6 + 0.6 = 2.2$
6. $0.41 + 0.25 = 0.66$
7. $2.3 - 1.6 = 0.7$
8. $0.89 - 0.6 = 0.29$
9. $0.05 + 0.25 = 0.3$
10. $0.25 - 0.05 = 0.2$
Work Backward
Paul had $8.25 more yesterday than he does today. Yesterday he had $12. How much does Paul have today?

Step 1. Understand
Be sure you understand the problem.
Read carefully.
- What do you know?
  Paul had $8.25 more yesterday than he does today.
  Yesterday Paul had $12.
- What do you need to find?
  You need to find how much Paul has today.

Step 2. Plan
Make a plan.
Choose a strategy.
You can work backward to solve the problem.
Start with how much Paul had yesterday.
Then work backward to find how much he has today.

Carry out your plan.
You know Paul had $12 yesterday.
You know Paul had $8.25 more yesterday than he does today.
Think: Paul had $12 yesterday, which is $8.25 more than he has today.
Subtract to find how much Paul today.
$12.00 - $8.25 = $3.75
Paul has $3.75 today.

Step 4. Check
Is the solution reasonable?
Reread the problem.
Work forward to check your answer.
Start with your answer. Add $8.25.
Did you end with $12?

What other strategies could you use to solve the problem?
Possible answer: write an equation.

Solve. Use the work backward strategy.
1. Sally had $10 less yesterday than she does today. Yesterday she had $13.30. How much does Sally have today?
   $23.30

2. Lin and Roy walk to the library. Lin walks twice as far as Roy. Roy walks 4 miles. How far does Lin walk?
   8 miles
**Skills Practice**

**Problem-Solving Strategy**

**Solve. Use the work backward strategy.**

1. Karen had $7 less yesterday than she does today. Yesterday she had $18. How much does Karen have today? **$25**

2. T.J. had 46 basketball cards. Then he bought some more basketball cards at the store. Now T.J. has 58 basketball cards. How many cards did T.J. buy? **12 cards**

3. Mr. Thomas and Ms. Hernandez drive to the same movie theater. Mr. Thomas drives twice as far as Ms. Hernandez. Ms. Hernandez drives 13 miles. How far does Mr. Thomas drive? **26 miles**

4. Kate has 3 times as many California quarters as Ohio quarters. She has 36 California quarters. How many Ohio quarters does Kate have? **12 Ohio quarters**

**Solve. Use any strategy.**

5. Mr. Johnson has $327.50. He spends $26.50 on gasoline. How much money does Mr. Johnson have left? **$301**

**Strategy:** Sample answer: write an equation

6. Walking a mile burns about 110 calories. About how many calories would you burn if you walked 4 miles? **440 calories**

**Strategy:** Sample answer: find a pattern

7. Write a problem that can be solved by working backward. Share it with others.

**Answers may vary.**

---

**Homework Practice**

**Problem-Solving Strategy**

**Solve. Use the work backward strategy.**

1. A number is divided by 4. Then 2 is added to the quotient. Finally the sum is multiplied by 3. The result is 12. What is the number? **8**

2. Mrs. Washington can jog one mile in 9 minutes. She can walk one mile in 15 minutes. She always stretches for five minutes before exercising. She jogged 2 miles and walked 2 miles. If she finished at 9:15 A.M., what time did she start? **8:22 A.M.**

3. Alejandro has 4 times as many crayons as markers. He has 6 more markers than pencils. He has 12 pencils. How many crayons does he have? **72 crayons**

4. Emily bought a $5 sandwich. She then repaid her friend $6. Now Emily has $8. How much money did she have originally? **$19**

---

**Spiral Review**

**Estimate. Round to the nearest whole number. (Lesson 15-2)**

5. 5.4 + 5.7 = **11**

6. 2.8 + 7.3 = **10**

7. 9.3 + 13.6 = **23**

**Estimate by rounding to the nearest whole number. Then compare. Use >, <, or =.**

8. 6.72 + 11.54 = **13.33** + 9.44

9. 8.75 + 11.23 = **14.16** + 5.89

10. 18.46 – 8.29 = **14.95** – 5.26

11. Juan can throw a ball 23.47 yards. Michael can throw a ball 19.77 yards. To the nearest whole number, about how much farther can Juan throw the ball than Michael? **3 yards**

12. Sydney can run a mile in 8.6 minutes. Melissa can run a mile in 7.4 minutes. To the nearest whole minute, about how much faster can Melissa run a mile than Sydney? **2 minutes**
**Grade 4**

**Chapter 15**

---

### 15–3

**Enrich**

**Magic Square**

A square is "magic" if the numbers in every row, every column, and both diagonals add up to the same number. In this case the sum is 10.2. Use the numbers in the box to complete the magic square below.

<table>
<thead>
<tr>
<th>3.0</th>
<th>3.1</th>
<th>3.2</th>
<th>3.3</th>
<th>3.4</th>
<th>3.5</th>
<th>3.6</th>
<th>3.7</th>
<th>3.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.3</td>
<td>3.8</td>
<td>3.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.2</td>
<td>3.4</td>
<td>3.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.7</td>
<td>3.0</td>
<td>3.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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### 15–4

**Reteach**

**Add Decimals**

You can use models to help you add decimals.

Find \(1.34 + 1.28\).

**One Way:**

Using Models

Color 1.34 dark gray. Color 1.28 with stripes. Count the number of squares you shaded.

**Another Way:**

Using Paper and Pencil

Add each place. Regroup if needed.

\[
\begin{align*}
1 & \quad 1.34 \\
+ & \quad 1.28 \\
\hline
\end{align*}
\]

There are 2 whole grids shaded and 62 out of 100 shaded in the third grid.

So, \(1.34 + 1.28 = 2.62\).

Find each sum. Use the space below to draw 10-by-10 grids to help you if needed.

1. \(1.7 + 1.4 = \underline{3.1}\)
2. \(1.24 + 0.38 = \underline{1.62}\)
3. \(0.5 + 0.8 = \underline{1.3}\)
4. \(1.5 + 1.35 = \underline{2.85}\)
5. \(2.25 + 1.03 = \underline{3.28}\)
6. \(1.52 + 0.35 = \underline{1.87}\)
7. \(0.9 + 0.8 = \underline{1.7}\)
8. \(0.6 + 1.85 = \underline{2.45}\)
9. \(0.85 + 0.15 = \underline{1.00}\)
10. \(0.8 + 0.6 = \underline{1.4}\)
Name ____________________ Date _____________

**Skills Practice**

Add Decimals

<table>
<thead>
<tr>
<th>Add.</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>0.36 + 0.25</td>
<td>0.61</td>
</tr>
<tr>
<td>2.</td>
<td>0.69 + 9.26</td>
<td>9.95</td>
</tr>
<tr>
<td>3.</td>
<td>6.37 + 5.60</td>
<td>11.97</td>
</tr>
<tr>
<td>4.</td>
<td>0.29 + 0.44</td>
<td>0.73</td>
</tr>
<tr>
<td>5.</td>
<td>23.60 + 5.40</td>
<td>29.00</td>
</tr>
<tr>
<td>6.</td>
<td>2.87 + 8.12</td>
<td>10.99</td>
</tr>
<tr>
<td>7.</td>
<td>0.60 + 0.70</td>
<td>1.30</td>
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<tr>
<td>8.</td>
<td>32.75 + 12.30</td>
<td>45.05</td>
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<td>9.</td>
<td>36.21 + 9.75</td>
<td>45.96</td>
</tr>
<tr>
<td>10.</td>
<td>1.67 + 1.45</td>
<td>3.12</td>
</tr>
<tr>
<td>11.</td>
<td>25.97 + 7.26</td>
<td>33.23</td>
</tr>
<tr>
<td>12.</td>
<td>12.94 + 7.62</td>
<td>20.56</td>
</tr>
<tr>
<td>13.</td>
<td>2.67 + 1.38</td>
<td>4.05</td>
</tr>
<tr>
<td>14.</td>
<td>12.32 + 1.74</td>
<td>14.06</td>
</tr>
<tr>
<td>15.</td>
<td>0.25 + 12.25</td>
<td>12.50</td>
</tr>
<tr>
<td>16.</td>
<td>12.5 + 11.35</td>
<td><strong>23.85</strong></td>
</tr>
<tr>
<td>17.</td>
<td>2.7 + 2.73</td>
<td><strong>5.43</strong></td>
</tr>
<tr>
<td>18.</td>
<td>3.36 + 5.03</td>
<td><strong>8.39</strong></td>
</tr>
</tbody>
</table>

**Solve.**

19. Angelo spends $13.67 at the grocery store and $7.42 at the video store. How much does he spend? **$21.09**

20. Lora spends $2.64 on stamps and $1.39 on envelopes. How much does she spend? **$4.03**


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**Homework Practice**

Add Decimals

<table>
<thead>
<tr>
<th>Add.</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>0.5 + 0.3</td>
<td>0.8</td>
</tr>
<tr>
<td>2.</td>
<td>4.3 + 5.42</td>
<td>9.72</td>
</tr>
<tr>
<td>3.</td>
<td>$9.32 + 4.98</td>
<td>$14.30</td>
</tr>
<tr>
<td>4.</td>
<td>0.9 + 0.7</td>
<td>1.6</td>
</tr>
<tr>
<td>5.</td>
<td>0.78 + 8.56</td>
<td>9.34</td>
</tr>
<tr>
<td>6.</td>
<td>1.6 + 6.50</td>
<td>$19.11</td>
</tr>
<tr>
<td>7.</td>
<td>1.5 + 0.7</td>
<td>2.2</td>
</tr>
<tr>
<td>8.</td>
<td>11.47 + 10.78</td>
<td>22.25</td>
</tr>
<tr>
<td>9.</td>
<td>$13.01 + 5.12</td>
<td>$18.13</td>
</tr>
<tr>
<td>10.</td>
<td>42.31 + 8.77</td>
<td><strong>51.08</strong></td>
</tr>
<tr>
<td>11.</td>
<td>6.4 + 4.2 + 2.7</td>
<td><strong>13.3</strong></td>
</tr>
<tr>
<td>12.</td>
<td>52.89 + 48.24</td>
<td><strong>101.13</strong></td>
</tr>
<tr>
<td>13.</td>
<td>4.2 + 3.33 + 8.1</td>
<td><strong>15.63</strong></td>
</tr>
<tr>
<td>14.</td>
<td>$46.75 + $17.17</td>
<td><strong>$63.92</strong></td>
</tr>
<tr>
<td>15.</td>
<td>7.1 + 25.4 + 3.48</td>
<td><strong>13.12</strong></td>
</tr>
</tbody>
</table>

**Spiral Review**

Solve. Use the work backward strategy. (Lesson 15-3)

16. A number is multiplied by 4. Then 7 is subtracted from the product. Finally the result is divided by 3. The result is 7. What is the number? 7

17. Pedro took 15 minutes to walk home. He played basketball for 30 minutes. Then he ate a snack for 20 minutes. Finally he sat down to start his homework at 4:00 P.M. What time did he leave school? 2:55 P.M.

18. Marissa has 5 times as many pairs of socks as DVDs. She has 4 more DVDs than computer games. She has half as many computer games as baseball caps. If she has 6 baseball caps, how many pairs of socks does she have? **35 pairs of socks**
Problem-Solving Practice
Add Decimals

Solve.

1. Talia walked 0.36 miles to the store. Then she walked 2.3 more miles to her grandmother’s house. How many miles did she walk in all? 2.66 miles

2. A small puzzle costs $2.06. A large puzzle costs $3.21. How much would you pay for both puzzles? $5.27

3. Iris wants to buy a model airplane kit that costs $6.29. She also wants to buy a model car kit that costs $3.89. How much will she pay for both model kits? $10.18

4. A ribbon company produces 3.146 meters of silk ribbon per hour and 2.19 meters of velvet ribbon per hour. In all, how many meters of ribbon do they produce in an hour? 33.65 meters of ribbon

5. The Winters family is going to a museum. It costs $0.90 for a round-trip bus ticket. It costs $8.75 for a monthly bus pass. Mr. Winters buys a monthly bus pass into the city for himself and his wife because they use them to go to work. He buys his two children round-trip tickets for that day. How much did he pay for his bus tickets? $19.30

6. On Monday, Ms. Tipton braided 7.32 yards of material for a handmade rug during her regular work hours. She braided another 0.97 yard when she worked an hour of overtime. How much material did she braid on Monday? 8.29 yards

Enrich
Towering Decimals

1. The Eiffel Tower opened in 1889. Since that time more than 200 million visitors have climbed the tower while in Paris, France. Add up all the number of visitors between 2000 and 2005. (Hint: Be sure to line up the decimal points.)


5.8 + 5.7 + 5.8 + 5.9 + 6.1 + 6.4 = 35.7 million visitors

2. The Tower of London, located on the Thames River, is more than 900 years old and has had about 3 million visitors. Add up all the numbers of visitors between 2000 and 2005. (Hint: Be sure to line up the decimal points.)

2000—0.7 million, 2001—0.65 million, 2002—0.78 million, 2003—0.79 million, 2004—0.8 million, 2005—0.72 million

0.7 + 0.65 + 0.78 + 0.79 + 0.8 + 0.72 = 4.44 million visitors

3. How many more people visited the Eiffel Tower than the Tower of London between 2000 and 2005?

31.26 million people
Problem-Solving Investigation

There are many ways to solve most math problems. You will decide which strategy works best for you when you read the problems.

**Problem-Solving Strategies**
- Solve a simpler problem
- Make a model
- Use logical reasoning
- Work backward
- Draw a picture

James, Abigail, and Chris each play soccer. James’s jersey is not blue. Abigail’s jersey is not blue or black. Neither of Chris’s two jerseys are green. The color of James’s jersey does not begin with r or g.

**Understand**
You know that James has one jersey that is not blue, and the name of the color does not begin with r or g. Abigail has one jersey that is not blue or black. Chris has two jerseys that are not green. You need to find out which color jersey belongs to each person.

**Plan**
Choose a strategy. You have pieces of information that can help you figure out the correct answer. You will use logical reasoning to figure out the answer.

**Solve**
Use the pieces of information you have to help you figure out which color jersey each player has. Write yes or no for each piece of information you have. Once you have a yes in a square, you can fill in the rest of the row and column with nos (except for Chris, who has two jerseys):

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<th>blue</th>
<th>black</th>
<th>green</th>
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<td>no</td>
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<tr>
<td>Chris</td>
<td>yes</td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
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**Check**
Check to see if you are correct. The solution matches the facts given in the problem. So, you know your answer is correct.

1. The R train comes every 42 minutes. The next time the R train will arrive is 10:23 A.M. What time did the R train last come?

9:41 A.M.

Strategy: sample answer: solve a simpler problem

2. The number of acorns on the sidewalk doubles every 6 hours. After 1 day, there are 96 acorns. How many were there at the beginning of the day?

6 acorns

Strategy: sample answer: work backward

3. Tim bought 4 books for $16. If each book costs the same amount, how much would 15 books cost?

$60

Strategy: sample answer: make a model

4. Two numbers have a product of 48 and a difference of 8.

What are these two numbers? 4 and 12

Strategy: sample answer: use logical reasoning

5. Ashley takes care of her neighbor’s pets for $3.50 a day. How many days would she need to work to earn $31.50?

9 days

Strategy: sample answer: make a model
Use any strategy shown below to solve. Tell what strategy you used.

- Solve a simpler problem
- Make a model
- Use logical reasoning
- Work backward
- Draw a picture

1. Kevin's favorite radio station plays his favorite song every 56 minutes. If he heard it at 4:12 P.M., when will the station play the song again?
   **5:08 P.M.**
   **Sample answer:** solve a simpler problem

2. Haley spent $6.45 at lunch. Then she repaid her brother $4.27. Now she has $9.18. How much money did she start with?
   **$19.90**
   **Strategy:** sample answer: work backward

3. Two numbers have a product of 56 and a difference of 10. What are these two numbers?
   **4 and 14**
   **Strategy:** sample answer: use logical reasoning

4. Hannah and Madison have a leaf collection. Hannah collects three times as many leaves as Madison each day. After 4 days, Madison has 48 leaves. How many leaves per day does Hannah collect?
   **36 leaves**
   **Strategy:** sample answer: work backward

5. William, Joe, and Nicole each like running, biking, or swimming. Nicole does not like to wear shoes while exercising. William does not like wearing a helmet. Which sport does each friend like?
   **Nicole-swimming; William-running; Joe-biking**
   **Strategy:** sample answer: use logical reasoning

### Spiral Review

**Add.** (Lesson 15–4)

1. **0.4 + 0.2 + 0.56**
   **0.6**
2. **3.7 + 6.37 + 11.12**
   **19.07**
3. **3.962 + 7.24**
   **11.202**
4. **37.53 + 18.64**
   **56.17**
5. **53.71 + 33.87**
   **87.58**
6. **5.3 + 3.8 + 1.9**
   **11.0**
15–5

**Enrich**

**Tall Story Problem**

These decimal numbers dwell in buildings that are one story, two stories, or three stories tall.

The buildings all over town follow the same pattern.

1. On which floor does the number 0.25 live?
   - 1st floor
   - 2nd floor
   - 3rd floor

   Explain your thinking.
   **Answers may vary. Sample answer:** The pattern across the 1st floor is add 0.1, add 0.2, add 0.3 and then repeat. If the pattern is followed 0.25 will fall into the pattern.

2. Describe the kinds of numbers that live on the third floor.
   **multiples of 6**

3. Describe the kinds of numbers that live on the second floor.
   **odd numbers**

---

15–6

**Reteach**

**Subtract Decimals**

You can use models to help you subtract decimals.

Find 1.7 − 1.59.

**Using Models**

Color 1.7. Cross out 1.59. Count the number of squares not crossed out.

**Using Paper and Pencil**

Subtract each place. Regroup if necessary.

\[
\begin{align*}
1.70 & - 1.59 \\
\hline
& 0.11
\end{align*}
\]

Write zero as a place holder.

\[
\begin{align*}
1.70 & - 1.59 \\
\hline
& 0.11
\end{align*}
\]

**Subtract. Use the space below to draw 10-by-10 grids to help you.**

1. \(1.8 - 1.2 = \) 0.6 5. \(1.35 - 1.08 = \) 0.27
2. \(0.9 - 0.5 = \) 0.4 6. \(1.7 - 0.48 = \) 1.22
3. \(1.25 - 0.18 = \) 1.07 7. \(0.5 - 0.05 = \) 0.45
4. \(0.8 - 0.25 = \) 0.55 8. \(1.65 - 1.3 = \) 0.35
## Subtract Decimals

### Skills Practice

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### Homework Practice

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### Spiral Review (Lesson 15-5)

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

Tell what strategy you used.

- Use logical reasoning
- Draw a picture
- Make a model
- Work backward
- Solve a simpler problem

**Solve.**

27. Kellyn buys a game for $15.86. What is her change from a $20-bill?
   
   $4.14

28. Christine buys a pair of socks for $8.35. What is her change from a $10-bill?
   
   $1.65

29. Matt buys a pencil for $0.35, a pen for $2.75, and a ruler for $4.36.
   
   What is his change from a $20-bill?
   
   $12.54

30. Cody earns money selling lemonade. He earned $14.55 the first week, $11.75 the second week, $18.54 the last week. How much money did he make selling lemonade?
   
   $44.84

   **Strategy:** sample answer: make a model

31. Samantha has 15 packages of 12 plates. How many plates does she have?
   
   180 plates

   **Strategy:** sample answer: make a model
**Problem-Solving Practice**

**Subtract Decimals**

**Solve.**

1. Petra has $1.78 in her pocket. She spends $0.25 on a banana. How much money does she have left? $1.53

2. Abu weighs his book bag. It weighs 11.65 pounds. He takes out the dictionary and weighs it. The dictionary weighs 3.31 pounds. If he leaves the dictionary out, how much will the book bag weigh? *8.34 pounds*

3. Celia has $16.41 saved. She wants to buy a book that costs $8.56. If she buys the book, how much money will she have left? $7.85

4. Andrea buys a roll of ribbon that is 13.85 meters long. She needs 2.9 meters of ribbon to decorate a picture frame. How much ribbon will she have left? *10.95 meters of ribbon*

5. The computer game that Parker wants to buy costs $21.07 with tax. He has $17.86. How much more money does he need to buy the game? $3.21

6. Clarissa uses 12.06 meters of string to weave a big bag. She uses 9.14 meters of string to weave a smaller bag. How much more string does she use for the big bag? *2.92 meters of string*

**Enrich**

**Right on Target**

**Subtract the decimal in the center from each decimal in the middle ring. Write the answers in the outer ring. Be sure to line up the decimal points.**

1. 

2. 

3. 

4. 

**Answers** (Lesson 15-6)
## Vocabulary Test

Using the word bank below, complete each sentence by writing the correct word or words in the blank.

**Word Bank:**
- sum
- decimal point
- estimate
- round
- difference
- decimal

1. A **sum** is the answer to an addition problem.
2. A **decimal point** is a period separating the ones and the terms in a number.
3. A **decimal** is a number with one or more digits to the right of the decimal point.
4. An **estimate** is a number close to an exact value.
5. The **difference** is an answer to a subtraction problem.
6. To **round** is to change the value of a number to one that is easier to work with.

## Oral Assessment

Set up a pretend store. Collect the following items from the classroom: (1) a book, (2) a hall pass, (3) a box of chalk, (4) a box of crayons, and (5) a pencil case. Make up prices in decimal form to attach to each item. **Answers will vary.**

1. How much is it for a pencil case and a box of crayons?
2. How much is it for a book and a box of chalk?
3. Tell how you got your answer.
4. How much is it for everything?
5. How much is it for a box of crayons and a box of chalk?
6. Explain your answer.
Mrs. Fouse’s Class

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<th>Student</th>
<th>Grade</th>
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<tbody>
<tr>
<td>Jamie</td>
<td>92.78</td>
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<tr>
<td>Scott</td>
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</tr>
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<td>Mario</td>
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<td>Deja</td>
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<tr>
<td>Michelle</td>
<td>78.45</td>
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</table>

8. Who has the highest grade? **Jamie**

9. To the nearest whole number, who earned a higher score, Scott or Mario? **Scott**

10. Tell how you got your answer.

85 > 84

11. To the nearest whole number, which two students earned the same grade? **Deja and Michelle**

12. Explain your answer. **78 = 78**

13. In order for Jamie to earn an A, she must achieve a 93.0 or above. Mrs. Fouse rounds her students’ grades according to the rounding rules. Will Jamie get an A for the quarter? **Yes**

14. Tell how you got your answer.

92.78 rounds up to 93.
Chapter 15 Assessment Answer Key

Diagnostic Assessment
Page 39

1. 800
2. 1,330
3. 40,000
4. $2,000

5. 0.10
6. 0.12

7. 0.75
8. 0.60

9. See students’ work.
10. See students’ work.

Pretest
Page 40

1. 8
2. 83
3. 2
4. 56

5. 32.8
6. 31.7
7. 98.9
8. 49.7

9. About 16
10. About 84
11. About 46
12. About 68

13. 96.23
14. 4.44
15. 30.2
16. 84.84

Quiz 1
Page 41

1. 8
2. 2.2
3. 7.7
4. 10
5. 18
6. $11
7. about 46 carats
8. about 3 percent

(continued on the next page)
Chapter 15 Assessment Answer Key

Quiz 2
Page 42

1. 0.9  
2. 1.5  
3. 11   
4. 17.15
5. 74.76
6. $81.01
7. 3:43 P.M.

Quiz 3
Page 43

1. 0.6  
2. 1.2  
3. 6.18 
4. 6.21 
5. $3.64 
6. 25.13

Mid-Chapter Review
Page 44

1. C
2. H
3. 7
4. 13
5. 27
6. 4.7
7. 9.0
8. 14.2
9. 15
10. $7
11. 24
12. 29
13. 38 books
14. 12

120 customers;
Sample answer: make a model

3 and 15;
Sample answer: logical reasoning

$7.58
### Chapter 15 Assessment Answer Key

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<th>Form 2A</th>
<th>Page 52</th>
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<td><strong>11.</strong></td>
<td>B</td>
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<td><strong>12.</strong></td>
<td>H</td>
<td><strong>12.</strong></td>
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<td><strong>13.</strong></td>
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<tr>
<td><strong>14.</strong></td>
<td>F</td>
<td><strong>14.</strong></td>
<td>G</td>
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<td><strong>15.</strong></td>
<td>B</td>
<td><strong>15.</strong></td>
<td>C</td>
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*(Continued on the next page)*
Chapter 15 Assessment Answer Key

Form 2A (Continued)
Page 53

9. B
10. G
11. B
12. H
13. A
14. H
15. D

Form 2B
Page 54

1. A
2. F
3. C
4. H
5. C
6. H
7. B
8. F
9. A
10. G
11. C
12. F
13. C
14. F
15. C
# Chapter 15 Assessment Answer Key

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(Continued on the next page)
Chapter 15 Assessment Answer Key

Form 2D (Continued)
Page 59

10. 9.91

11. 4.7

12. 7.92

13. $4.74

14. 1.5 inches

15. miles

Form 3
Page 60

1. $18
   31 miles per gallon

2. 

3. 311.1 inches

4. 22.7

5. $48

6. 90

7. =

8. >

9. 19.52

10. 1,482.46

Page 61

11. 17.53

12. $345.51

13. $2.66

14. 66.11 seconds

15. 1.82 inches
## Scoring Rubric

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<th>Specific Criteria</th>
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<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>
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<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 solution</strong> or uninterpretable response, or no response at all.</td>
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</table>
In addition to the scoring rubric found on page A25, the following sample answers may be used as guidance in evaluating open-ended assessment items.

1. The most populated city is Los Angeles and the least populated is Long Beach. The population difference between Los Angeles and Long Beach is $3.96 \text{ million} - 0.49 \text{ million} = 3.47 \text{ million}$.

2. To find the answer, subtract the population of San Francisco from the population of San Jose: $0.94 \text{ million} - 0.79 \text{ million} = 0.15 \text{ million}$. San Jose has 0.15 million more people than San Francisco.

3. To find the answer, subtract the population of San Jose from the population of San Diego: $1.30 \text{ million} - 0.94 \text{ million} = 0.36$. San Diego has 0.36 million more people than San Jose.

4. Yes. The total population of San Diego, San Jose, San Francisco, and Long Beach is $3.52 \text{ million}$, which is less than the Los Angeles population of $3.96 \text{ million}$.
### Chapter 15 Assessment Answer Key

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<th>Page 65</th>
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<tbody>
<tr>
<td>2. F</td>
<td>6. F</td>
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<tr>
<td></td>
<td>9. B</td>
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<tr>
<td></td>
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<tr>
<td>11. 10.4 miles</td>
<td>12. 108.3 inches</td>
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</tr>
<tr>
<td>13. Sample answer: $11</td>
<td>14. 45.2</td>
<td>15. 56.8</td>
</tr>
<tr>
<td>16. A</td>
<td>17. $90</td>
<td>18. 46</td>
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<td>19. 23</td>
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