# Grade 3 Chapter 14

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Teacher’s Guide to Using the
Chapter 14 Resource Masters

The Chapter 14 Resource Masters includes the core materials needed for Chapter 14. These materials include worksheets, extensions, and assessment options. The answers for these pages appear at the back of this booklet.

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

Chapter Resources

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

Student Glossary (page 2) This master is a study tool that presents the key vocabulary terms from the chapter. You may suggest that students highlight or star the terms they do not understand. Give this list to students before beginning Lesson 14–1. Remind them to add these pages to their mathematics study notebooks.

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

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

Resources for Computational Lessons

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

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

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

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

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

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

Assessment Options  The assessment masters in the Chapter 14 Resource Masters offer a wide variety of assessment tools for monitoring progress as well as final assessment.

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

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

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

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

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

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

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

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

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

Leveled Chapter Tests

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

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

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

Answers

The answers for the Anticipation Guide and Lesson Resources are provided as reduced pages with answers appearing in black. Full size line-up answer keys are provided for the Assessment Masters.
Use this graphic organizer to take notes on **Chapter 14: Multiply by One-Digit Numbers.** Fill in the missing information.

<table>
<thead>
<tr>
<th>Vocabulary Term</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>multiples</td>
<td></td>
<td></td>
</tr>
<tr>
<td>estimate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>round</td>
<td></td>
<td></td>
</tr>
<tr>
<td>product</td>
<td></td>
<td></td>
</tr>
<tr>
<td>multiply</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
This is an alphabetical list of new vocabulary terms you will learn in **Chapter 14: Multiply by One-Digit Numbers**. 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>estimate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>multiples</td>
<td></td>
<td></td>
</tr>
<tr>
<td>multiply</td>
<td></td>
<td></td>
</tr>
<tr>
<td>product</td>
<td></td>
<td></td>
</tr>
<tr>
<td>round</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Dear Family,

Today my class started Chapter 14: Multiply by one-Digit Numbers. I will be learning to multiply multi-digit numbers. I will also be learning to estimate products and multiply money. Here are my vocabulary words and an activity that we can do together.

Love, ________________

Key Vocabulary

**multiples** A multiple of a number is the product of that number and any whole number. 5 is a multiple of 5 because \(3 \times 5 = 15\).

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

**round** To change the value of a number to one that is easier to work with. 24 rounded to the nearest tenth is 20.

**product** The answer to a multiplication problem.

**multiply** Find the product. \(4 \times 3 = 12\) Four groups of three is equal to 12.

**Activity**

Collect items around the house that you would like to sell at a yard sale. Put price tags on the items. Figure out how much it would cost a buyer if they wanted to buy one, two or three of each of your items.

**Books to Read**

*Anno’s Mysterious Multiplying Jar*  
by Mitsumasa Anno

*Each Orange Has 8 Slices*  
by Paul Giganti, Jr.

*The Best of Times*  
by Greg Tang
Estimada familia:
Hoy mi clase comenzó el Capítulo 14: Multiplica por números de un dígito. Aprenderé a multiplicar números de varios dígitos y también a estimar productos y a multiplicar dinero. A continuación, están mis palabras de vocabulario y una actividad que podemos hacer juntos.
Cariños, ______________________

Vocabulario clave

múltiplos Un múltiplo de un número es el producto de ese número y cualquier número entero. 15 es un múltiplo de 5 porque $3 \times 5 = 15$.

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

redondear Cambiar el valor de un número por uno con el que es más fácil trabajar. 24 redondeado a la décima más cercana es 20.

producto Respuesta a un problema de multiplicación

multiplicar Calcular el producto. $4 \times 3 = 12$
Cuatro grupos de tres es igual a 12.

Actividad
Reúnan objetos de la casa que les gustaría vender en una venta de garaje. Colóquenles precios a los objetos. Calculen cuánto le costaría al comprador si quisiera comprar uno, dos o tres de cada objeto.

Libros recomendados

Anno’s Mysterious Multiplying Jar de Mitsumasa Anno

Each Orange Has 8 Slices de Paul Giganti, Jr.

The Best of Times de Greg Tang
Anticipation Guide

Multiply by One-Digit Numbers

STEP 1 
Before you begin Chapter 14

• 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 multiple of a number is the product of that number and any whole number.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. 15 is a multiple of 5.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. 17 is a multiple of 6.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. An estimate is a number close to an exact value.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. An estimate indicates exactly how much.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. 47 + 22 is about 70.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. A product is the answer to a multiplication problem.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. In 4 \times 9 = 36, 9 is the product.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. In 4 \times 9 = 36, 36 is the product.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

STEP 2 
After you complete Chapter 14

• 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.
You will need:
10 index cards
2 game pieces
Penny

Write 10 sets of money amounts on the index cards, one set to a card. For example: $12.95, $27.45, $34.59, $48.24, $53.78, $66.29, $71.89, $88.19, $95.99

1. Shuffle the index cards and place them in a stack face down. When the penny is flipped, heads stands for 3 and tails stands for 4. Both players place their game pieces on a different “start” square.

2. Have player 1 pick a card, round the numbers to the greatest digit, and write the money amount. Player 1 flips the coin and multiplies the rounded money amount by 3 or 4, depending on the toss.

3. Move the game piece to the corresponding money amount and keep the card.

4. Take turns picking cards and repeating the activity. When one player lands on the finish square, the game is over. The player with the most cards wins the game.
Find $5 \times 30$.
Make 5 groups with 30 in each group.

\[3 \text{ tens} + 3 \text{ tens} + 3 \text{ tens} + 3 \text{ tens} + 3 \text{ tens} = 15 \text{ tens} = 150\]

So, $5 \times 30 = 150$.

Find $4 \times 3,000$. Use basic facts. Look for a pattern.

\[
\begin{align*}
4 \times 3 &= 4 \times 3 \text{ ones} = 12 \text{ ones} = 12 \\
4 \times 30 &= 4 \times 3 \text{ tens} = 12 \text{ tens} = 120 \\
4 \times 300 &= 4 \times 3 \text{ hundreds} = 12 \text{ hundreds} = 1,200 \\
4 \times 3,000 &= 4 \times 3 \text{ thousands} = 12 \text{ thousands} = 12,000
\end{align*}
\]

So, $4 \times 3,000 = 12,000$.

Multiply.

1. $3 \times 20 = \underline{\hspace{1cm}} \text{ tens} = \underline{\hspace{1cm}}$

2. $5 \times 40 = \underline{\hspace{1cm}} \text{ tens} = \underline{\hspace{1cm}}$

3. $7 \times 20 = \underline{\hspace{1cm}} \text{ tens} = \underline{\hspace{1cm}}$

4. $4 \times 20 = \underline{\hspace{1cm}} \text{ tens} = \underline{\hspace{1cm}}$

5. $2 \times 30 = \underline{\hspace{1cm}}$

6. $3 \times 30 = \underline{\hspace{1cm}}$

7. $7 \times 20 = \underline{\hspace{1cm}}$

8. $5 \times 60 = \underline{\hspace{1cm}}$

9. $4 \times 700 = \underline{\hspace{1cm}}$

10. $5 \times 600 = \underline{\hspace{1cm}}$

11. $2 \times 9,000 = \underline{\hspace{1cm}}$

12. $6 \times 8,000 = \underline{\hspace{1cm}}$
Multiply Multiples of 10, 100, and 1,000

Multiply. Use basic facts and patterns.

1.

2.

3. \(5 \times 2 = \) _____
   
   \(5 \times \) _____ = 100
   
   \(5 \times \) _____ = 1,000
   
   _____ \(\times 2,000 = 10,000\)

4. \(3 \times 9 = \) _____
   
   \(3 \times \) _____ = 270
   
   \(3 \times 900 = \) _____
   
   \(3 \times \) _____ = 27,000

Multiply.

5. \(5 \times 30 = \) _____

6. \(5 \times 40 = \) _____

7. \(4 \times 7,000 = \) _____

8. \(3 \times 800 = \) _____

9. \(6 \times 20 = \) _____

10. \(3 \times 60 = \) _____

11. \(8 \times 40 = \) _____

12. \(9 \times 300 = \) _____

13. \(6 \times 30 = \) _____

14. \(3 \times 40 = \) _____

15. \(80 \times 5 = \) _____

16. \(600 \times 5 = \) _____

17. \(4,000 \times 6 = \) _____

18. \(700 \times 6 = \) _____

19. \(8 \times 7,000 = \) _____

Solve.

20. A library spends $1,000 each month for new books. How much does it spend in 6 months?

21. Tara puts some of her stickers in a book. She fills 2 pages. Each page has 40 stickers on it. How many stickers are on those pages?
Multiply. Use basic facts and patterns.

<table>
<thead>
<tr>
<th></th>
<th>1. (2 \times 3 = )</th>
<th>2. (7 \times 5 = )</th>
<th>3. (5 \times 8 = )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(2 \times 30 = )</td>
<td>(7 \times 50 = )</td>
<td>(5 \times 80 = )</td>
</tr>
<tr>
<td></td>
<td>(2 \times 300 = )</td>
<td>(7 \times 500 = )</td>
<td>(5 \times 800 = )</td>
</tr>
<tr>
<td></td>
<td>(2 \times 3,000 = )</td>
<td>(7 \times 5,000 = )</td>
<td>(5 \times 8,000 = )</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>4. (2 \times 7 = )</th>
<th>5. (6 \times 3 = )</th>
<th>6. (7 \times 6 = )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(2 \times 70 = )</td>
<td>(6 \times 30 = )</td>
<td>(7 \times 60 = )</td>
</tr>
<tr>
<td></td>
<td>(2 \times 700 = )</td>
<td>(6 \times 300 = )</td>
<td>(7 \times 600 = )</td>
</tr>
<tr>
<td></td>
<td>(2 \times 7,000 = )</td>
<td>(6 \times 3,000 = )</td>
<td>(7 \times 6,000 = )</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>7. (3 \times 80 = )</th>
<th>8. (5 \times 4,000 = )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(400 \times 8 = )</td>
<td>(20 \times 9 = )</td>
</tr>
<tr>
<td></td>
<td>(5,000 \times 6 = )</td>
<td>(30 \times 4 = )</td>
</tr>
<tr>
<td></td>
<td>(700 \times 6 = )</td>
<td>(7 \times 900 = )</td>
</tr>
</tbody>
</table>

Solve.

15. There were 4 rows of desks in Cecilia’s classroom and 10 in each row. How many desks were there? _________________

16. On Valentine’s Day the florist delivered 100 vases of flowers. Each vase held half of a dozen flowers. (Remember: half of a dozen = 6) How many flowers were delivered that day? _________________

Spiral Review

Write the part of a dollar each amount represents. (Lesson 13–4)

17. 50¢ ______ 18. 25¢ ______
19. 20¢ ______ 20. 75¢ ______
Problem-Solving Practice

Multiply Multiples of 10, 100, and 1,000

Solve.

1. Nathan earns $30 a week at his part-time job. How much does he earn in 3 weeks?

2. The fruit store has 2 crates of apples left to sell. There are 50 apples in each crate. How many apples are left in all?

3. Shelley wants to make 800 copies of the third-grade class newsletter. The newsletter is 6 pages long. How many sheets of paper will she need to make the copies?

4. Some computers send information at the speed of 200 megabytes every second. How many megabytes could be sent in 8 seconds?

5. Benson School has 3 third-grade classrooms. There are 3 computers in each of the classrooms. Each computer costs $2,000. How much did all of the third-grade computers cost?

6. A carpenter made 90 new shelves. The materials for each bookshelf cost $9. He sells the shelves for a total of $1,800. How much profit did he make?
Enrich

Looking for Patterns and Rules

Look at the patterns. Answer the questions. Then make up a rule that could go with the pattern or answer.

1. 190, _____, _____, 220, 230, 240, ____

What are the three missing numbers in the pattern?

Rule: __________________________

2.

<table>
<thead>
<tr>
<th>a.</th>
<th>b.</th>
<th>4,300</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>b.</td>
<td>4,300</td>
</tr>
<tr>
<td>c.</td>
<td>5,200</td>
<td>5,300</td>
</tr>
<tr>
<td>6,100</td>
<td>d.</td>
<td>6,300</td>
</tr>
<tr>
<td>e.</td>
<td>f.</td>
<td>g.</td>
</tr>
</tbody>
</table>

What numbers belong in the boxes?

a. _____, b. _____, c. _____, d. _____, e. _____,
   f. _____, g. _____

Rule: __________________________

3. \[ 5 \times \ _, \ _ \times \ _, \ _ \times 800, \ _ \times \ _ , \ _ \times \ _ \]

\[ \downarrow \downarrow \downarrow \downarrow\]

\[ 3,000 \quad 3,500 \quad 4,000 \quad 4,500 \]

If the pattern continues, what numbers belong on the lines?

Rule: __________________________

4.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>100</td>
<td>150</td>
<td>200</td>
<td>5</td>
<td>6</td>
<td>350</td>
</tr>
</tbody>
</table>

What two numbers are missing? _____ and _____

Rule: __________________________
Robin, Mark, and Monica each have one pet. The pets include a cat, a dog, and a bird. Robin’s pet has fur. Mark’s pet has two legs. Monica does not have a cat. What pet does each person have?

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Be sure you understand the problem.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand</td>
<td>Read carefully.</td>
</tr>
<tr>
<td></td>
<td>What do you know?</td>
</tr>
<tr>
<td></td>
<td>• Each person has a different pet.</td>
</tr>
<tr>
<td></td>
<td>• Robin’s pet has fur.</td>
</tr>
<tr>
<td></td>
<td>• Mark’s pet has two legs.</td>
</tr>
<tr>
<td></td>
<td>• Monica does not have a cat.</td>
</tr>
<tr>
<td></td>
<td>What do you need to know?</td>
</tr>
<tr>
<td></td>
<td>• You need to find</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 2</th>
<th>Make a plan.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan</td>
<td>Choose a strategy.</td>
</tr>
<tr>
<td></td>
<td>Make a table to organize the information. Then use logical reasoning to solve the problem.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step 3</th>
<th>Carry out your plan.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solve</td>
<td>Robin’s pet has fur. Write no next to Robin’s name under bird.</td>
</tr>
<tr>
<td></td>
<td>Mark’s pet has two legs. Write yes next to his name under bird. Write no next to his name under cat and dog.</td>
</tr>
</tbody>
</table>
Since Mark has the bird, write no next to Monica’s name under bird. Monica does not have a cat. Write no next to her name under cat. That means that Monica has a dog.

Since Monica has a dog, write no next to Robin’s name under dog. That means that Robin has a cat.

<table>
<thead>
<tr>
<th></th>
<th>Cat</th>
<th>Dog</th>
<th>Bird</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mark</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monica</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

So, Robin has a cat, Mark has a bird, and Monica has a dog.

Step 4 Check

Is the solution reasonable?
Reread the problem.

How can you check your answers?

Solve. Use logical reasoning.

1. Kelly, Sally, Jane, and Ralph are eating lunch. They each have a different lunch: pepperoni pizza, ham sandwich, grilled cheese sandwich, and hot dog. Kelly does not eat meat. Sally does not like pizza, Jane is not eating a sandwich, and Ralph is eating a hot dog. Which lunch does each person have?
Skills Practice
Problem-Solving Strategy

Solve. Use logical reasoning.

1. Doug, Rachel, Mike, and Holly are each wearing different colored shoes. Doug is not wearing black. Rachel is not wearing red or blue. Holly is not wearing blue. Mike is wearing brown shoes. What color of shoes is each person wearing? Complete the table.

<table>
<thead>
<tr>
<th></th>
<th>brown</th>
<th>black</th>
<th>red</th>
<th>blue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doug</td>
<td></td>
<td>no</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rachel</td>
<td></td>
<td>no</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>Mike</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Holly</td>
<td>no</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Sue, Kara, Jonny, and Pat each have a different chore. Sue does not do dishes, Kara does not fold laundry or make beds, Jonny does not make beds or cut grass. Pat cuts the grass. What chores does each person do?

3. Marissa, Stephan, and Neal are standing in line for the movies. Stephan is not first. Marissa is next to Stephan. Neal is last. List the order from first to last in which they are standing?

4. Maria, Jason, Thomas, and Taj are running for class president. Jason has 68 votes more than Taj, Maria has 25 fewer votes than Jason, Thomas has twice as many votes as Taj. Taj has 65 votes. Who won the election? How many votes did each person receive?

5. Four friends are each wearing different colored shirts. The shirts are pink, yellow, blue, and green. Davey is not wearing pink. Dee is not wearing yellow. Chaz is not wearing green or pink. Phil is wearing blue. What color shirt is each person wearing?

6. Darius, Chuck, Sam, and Erin are lining up for a play. Darius is not first. Chuck is next to Sam and Erin. Sam is not last. Erin is first. What order are they standing in line for the play?
1. There were three horses in four stalls. Lightning was in the first stall and Pinto was in the fourth. Ginger was next to Lightning. Which stall was empty? _______________

2. Ben was hungry for a good snack, but wasn’t sure what to choose from the fruit basket. The bananas, apples, pears, and kiwis looked delicious. He was walking out the door, so he didn’t want to deal with a peel, and the pears and kiwis weren’t ripe. What did he pick? __________

3. Katie was the oldest of five children. She had one younger sister and three younger brothers. Brendan was in the middle, Tommy was older than Brendan, and Brendan was older than Lily, who was older than John. Where did John fall in the family? ______________

4. What is the largest three digit number you can write without using a 9 in the hundreds place or ones place, or an 8 in the tens place? ______________

5. Five cats were in the backyard. Oscar belonged to Robin. Gizmo belonged to Jason. Cosmo and Burt didn’t belong to Kirsten, and Speck didn’t belong to Pat. What are the names of Pat’s two cats? ______________

6. Carmen, Manuel, and Diego argued about who was first in line. Diego had been line leader last week, and the teacher said “ladies first.” Who will be first in line? __________

7. Marta made three sandwiches; turkey on a roll, ham on white, and tuna on rye. Jen doesn’t like rolls and Ana doesn’t care for deli meats. What is Marta left with for lunch? ______________

Solve. Use logical reasoning.

Multiply. (Lesson 14–1)

8. $80 \times 6 =$ _____

9. $6 \times 5,000 =$ _____

10. $7 \times 70 =$ _____

11. $400 \times 2 =$ _____

12. $20 \times 2 =$ _____

13. $300 \times 9 =$ _____
Enrich

Find the Missing Factor

Rearrange the digits in the boxes to find the missing factor for each multiplication problem.

1. 3, 1, 0
   _____ × 7 = 721

2. 5, 1, 3
   _____ × 4 = 540

3. 7, 2, 9
   3 × _____ = 891

4. 2, 7, 6
   2 × _____ = 1,452

5. 6, 5, 4
   5 × _____ = 2,730

6. 7, 5, 3
   _____ × 6 = 2,142

7. 4, 0, 1, 5
   3 × _____ = 3,135

8. Identify the strategies you used to solve these problems.

   _______________________________________
   _______________________________________
Estimate Products

To estimate a product, round the factor that is greater than 10.

Estimate: $4 \times 63$
$4 \times 60 = 240$

63 is closer to 60 than 70.

Estimate: $3 \times 589$
$3 \times 600 = 1,800$

589 is closer to 600 than 500.

Estimate: $8 \times 2,500$
$8 \times 3,000 = 24,000$

2,500 is halfway between 2,000 and 3,000. Round halfway numbers up.

Estimate. Show your work.

1. $5 \times 33$
2. $7 \times 48$
3. $2 \times 175$
4. $6 \times 837$
5. $3 \times 624$

Estimate each product.

6. $2 \times 29$
7. $3 \times 88$
8. $4 \times 41$
9. $4 \times 532$
10. $8 \times 816$
11. $7 \times 365$
12. $6 \times 593$
13. $8 \times 294$
14. $4 \times 290$
15. $9 \times 756$
16. $5 \times 320$
17. $9 \times 134$
Skills Practice

Estimate Products

Estimate. Round to the nearest ten.

1. \( \frac{56}{1} \)  
2. \( \frac{39}{0} \)  
3. \( \frac{82}{1} \)

4. \( \frac{81}{7} \)  
5. \( \frac{90}{1} \)  
6. \( \frac{61}{8} \)

7. \( 43 \times 5 = \)  
8. \( 9 \times 28 = \)  
9. \( 22 \times 4 = \)

10. \( 72 \times 4 = \)  
11. \( 6 \times 59 = \)  
12. \( 91 \times 7 = \)

13. \( 54 \times 6 = \)  
14. \( 7 \times 43 = \)  
15. \( 13 \times 3 = \)

16. \( 6 \times 17 = \)  
17. \( 85 \times 2 = \)  
18. \( 5 \times 47 = \)

Estimate. Round to the nearest hundred.

19. \( 9 \times 101 = \)  
20. \( 152 \times 3 = \)  
21. \( 6 \times 722 = \)

22. \( 567 \times 8 = \)  
23. \( 487 \times 5 = \)  
24. \( 2 \times 913 = \)

25. \( 7 \times 238 = \)  
26. \( 203 \times 4 = \)  
27. \( 1 \times 455 = \)

Solve.

28. There are 42 rows of 7 chairs in the movie theater. About how many chairs are there?

29. There are 26 tables in the room and 6 chairs around each table. About how many chairs are there?
Estimate. Round to the nearest ten.

1. \(72 \times 4 = \) 2. \(15 \times 6 = \) 3. \(45 \times 3 = \) 4. \(82 \times 8 = \)
5. \(34 \times 6 = \) 6. \(27 \times 5 = \) 7. \(66 \times 7 = \) 8. \(87 \times 3 = \)

Estimate. Round to the nearest hundred.

9. \(370 \times 9 = \) 10. \(252 \times 5 = \) 11. \(416 \times 5 = \)
12. \(509 \times 6 = \) 13. \(626 \times 3 = \) 14. \(849 \times 4 = \)
15. \(639 \times 8 = \) 16. \(771 \times 9 = \) 17. \(235 \times 4 = \)

Solve.

18. Sonia carved a pumpkin and found 843 seeds inside. If she carved 5 more pumpkins, about how many seeds should she find? 

19. The washer takes about 53 minutes to complete a load of laundry. If Francisco washes 8 loads of laundry a week, about how long is the washer running?

Solve. Use logical reasoning. (Lesson 14–2)

20. Four girls discussed their favorite colors. Olivia likes the color of oranges and pumpkins. Marisol likes the hues of grass and tree leaves. Patricia likes shades similar to apples and cherries. Cristina likes the color of the sky when the sun is shining. What color did each girl like?

21. There were three gifts in three boxes. The toy was not in the metal box. The homemade pretzels were not in a cardboard box. The stuffed animal was not in a wooden or cardboard box. What gifts were in each of the boxes?
Problem-Solving Practice

Estimate Products

Solve.

1. Each third-grade class has 25 students. There are three classes. About how many third-grade students are there in all? Round the answer to the nearest ten.

2. Adam earned 38 points on each of 4 quizzes. Does he have more than 100 total points? Explain.

3. Chad has 6 different packages of napkins. Each package has 44 napkins. About how many napkins does he have in all?

4. Dana’s family wants to buy 4 puzzles that cost $17 each. They have $50 to spend. Do they have enough money for the 4 puzzles? Explain.

5. Habib made 3 sandwiches. Each sandwich has 478 Calories. About how many total number of Calories are in the three sandwiches?

6. Erica has $5 to buy new pencils. She wants 1 purple pencil, 2 green pencils, 1 red pencil, and 5 blue pencils. Each pencil costs 49¢. Does she have enough money to buy all of the pencils she wants? Explain.
California held a fishing derby for three teams. Look at the numbers of each kind of fish caught by each team. Find about how many points each team received for the fish they caught. Estimate the fish points to the nearest hundred or thousand and multiply.

<table>
<thead>
<tr>
<th>Fish</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuna</td>
<td>9,461</td>
</tr>
<tr>
<td>Sea trout</td>
<td>8,296</td>
</tr>
<tr>
<td>Sea bass</td>
<td>4,500</td>
</tr>
<tr>
<td>Tarpon</td>
<td>6,248</td>
</tr>
<tr>
<td>Mackerel</td>
<td>3,885</td>
</tr>
<tr>
<td>Snapper</td>
<td>5,420</td>
</tr>
<tr>
<td>Catfish</td>
<td>3,243</td>
</tr>
<tr>
<td>Herring</td>
<td>888</td>
</tr>
<tr>
<td>Grouper</td>
<td>87</td>
</tr>
<tr>
<td>Bonefish</td>
<td>527</td>
</tr>
<tr>
<td>Barracuda</td>
<td>7,284</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The Trawlers</th>
<th>The Mighty Anglers</th>
<th>The Baiters</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 9 × Catfish =</td>
<td>2 × Tuna =</td>
<td>4 × Herring =</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. 7 × Bonefish =</td>
<td>5 × Bonefish =</td>
<td>6 × Catfish</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. 8 × Grouper =</td>
<td>6 × Snapper =</td>
<td>1 × Tuna =</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. 2 × Barracuda =</td>
<td>3 × Sea trout =</td>
<td>8 × Sea Trout =</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. 5 × Sea bass =</td>
<td>4 × Tarpon =</td>
<td>7 × Mackerel =</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Who had the most points?

Who came in second?

By about how many points did the highest-scoring team beat the lowest scoring team? Round to the nearest thousand.
**Reteach**

*Multiply by a One-Digit Number*

You can multiply using models or pencil and paper.

Find $4 \times 21$. 
Show 4 groups of 21.

**Step 1**

Multiply the ones. 
$4 \times 1 \text{ ones} = 4 \text{ ones}$

**Step 2**

Multiply the tens. 
$4 \times 2 \text{ tens} = 8 \text{ tens}$

**Step 3**

Add. 
$21 \text{ ones} + 80 = 84 \text{ ones}$

Complete to find the product. You may use models to help you.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>23</td>
<td></td>
<td>2</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\times 2$</td>
<td></td>
<td></td>
<td>$\times 2$</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>31</td>
<td></td>
<td>4</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\times 3$</td>
<td></td>
<td></td>
<td>$\times 3$</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>14</td>
<td></td>
<td>7</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\times 2$</td>
<td></td>
<td></td>
<td>$\times 2$</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>13</td>
<td></td>
<td>9</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$\times 2$</td>
<td></td>
<td></td>
<td>$\times 4$</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>12</td>
<td></td>
<td></td>
<td>$\times 4$</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>8</td>
<td></td>
<td>12</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>$\times 11$</td>
<td></td>
<td>$\times 11$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>3</td>
<td></td>
<td>14</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>$\times 33$</td>
<td></td>
<td>$\times 3$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>11</td>
<td></td>
<td>16</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>$\times 9$</td>
<td></td>
<td>$\times 22$</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Skills Practice

### Multiply by a One-Digit Number

**Multiply.**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>11</td>
<td>2.</td>
<td>12</td>
<td>3.</td>
</tr>
<tr>
<td></td>
<td>× 6</td>
<td></td>
<td>× 2</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>24</td>
<td>7.</td>
<td>21</td>
<td>8.</td>
</tr>
<tr>
<td></td>
<td>× 2</td>
<td></td>
<td>× 4</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>22</td>
<td>12.</td>
<td>12</td>
<td>13.</td>
</tr>
<tr>
<td></td>
<td>× 3</td>
<td></td>
<td>× 3</td>
<td></td>
</tr>
</tbody>
</table>

16. $13 \times 2 = \underline{26}$  
17. $12 \times 4 = \underline{48}$  
18. $9 \times 11 = \underline{99}$  
19. $4 \times 20 = \underline{80}$  
20. $21 \times 2 = \underline{42}$  
21. $40 \times 2 = \underline{80}$  
22. $7 \times 11 = \underline{77}$  
23. $22 \times 4 = \underline{88}$  
24. $11 \times 8 = \underline{88}$

25. Multiply 21 by 3. ______  
26. Multiply 20 by 2. ______  
27. Multiply 11 by 3. ______  
28. Multiply 13 by 2. ______  
29. Multiply 30 by 2. ______  
30. Multiply 11 by 4. ______

**Solve.**

31. A rectangle is 3 tiles wide by 13 tiles high. How many tiles are in the rectangle? ______

32. Books are stacked in 3 stacks with 12 books in each stack. How many books are in the stacks? ______
Homework Practice

Multiply by a One-Digit Number

Multiply.

1. \[44 \times 2 = \]
2. \[23 \times 2 = \]
3. \[14 \times 2 = \]
4. \[23 \times 3 = \]
5. \[11 \times 8 = \]
6. \[30 \times 3 = \]
7. \[41 \times 2 = \]
8. \[21 \times 4 = \]
9. \[33 \times 2 = \]
10. \[13 \times 2 = \]
11. \[20 \times 3 = \]
12. \[11 \times 7 = \]

Solve.

13. There is a shelf in the living room that has 4 shelves. There are 12 books on each shelf. How many books are there on the four shelves? ________________
14. Jorge is collecting baseball cards. He has 22 stacks of 4 cards. How many cards does he have altogether? ________________
15. Susana collected 2 cents at the recycling plant for each of her 42 cans. How much money did she collect altogether? ________________
16. Enrique can read a page in 3 minutes. How long will it take him to read 13 pages? ________________

Spiral Review

Estimate. Round to the nearest ten or hundred. (Lesson 14–3)

17. \[85 \times 6 = \]
18. \[703 \times 4 = \]
19. \[315 \times 4 = \]
20. \[895 \times 3 = \]
21. \[56 \times 7 = \]
22. \[49 \times 5 = \]
Name ____________________________ Date __________________

14–4

Problem-Solving Practice

Multiply by a One-Digit Number

Solve.

1. The straight part of Jane’s train track has 2 tracks. Each track is 13 inches. How many inches long is the straight part of the train track?
   _____ inches

2. Tom owns 3 sets of trains. Each set has 12 train cars. How many train cars does Tom have in all?
   _____ train cars

3. The border around a bulletin board is 35 inches long. There are 3 pieces of border paper left. Each piece is 11 inches long. Is there enough border paper to go around the bulletin board border? Explain.

4. There are 3 groups of students. Each group has 8 sheets of paper. How many sheets of paper are there in all?
   _____ sheets of paper

5. Sam can make 11 beaded necklaces in an hour. Sue can make 12 beaded necklaces in an hour. In one week Sam made necklaces for 6 hours and Sue made them for 3 hours. Who makes more necklaces in the week? Explain.

6. Each box has 50 of the same colored beads. Every bracelet has 4 blue beads and 3 red beads. If Jackie makes 12 bracelets, how many beads will be left in the box of blue beads?
   _____ blue beads

   How many will be left in the box of red beads?
   _____ red beads
Multiply. Then, find the products in the boxes below and shade in those squares. Some shaded digits will overlap. Three boxes are shaded for you.

1. $4 \times 60 = \underline{}$
2. $6 \times 600 = \underline{}$
3. $9 \times 20 = \underline{}$
4. $7 \times 60 = \underline{}$
5. $7 \times 900 = \underline{}$
6. $3 \times 4,000 = \underline{}$
7. $8 \times 80 = \underline{}$
8. $4 \times 8,000 = \underline{}$
9. $1 \times 700 = \underline{}$
10. $5 \times 800 = \underline{}$
11. $8 \times 10 = \underline{}$
12. $6 \times 800 = \underline{}$
13. $7 \times 4,000 = \underline{}$
14. $8 \times 7,000 = \underline{}$

Hold your answer up to a mirror to reveal an important birthday. Whose birthday is it?
If Dave cuts a 40-inch-long piece of wood into 8-inch pieces, how many pieces will he have?

### Step 1
**Understand**

Be sure you understand the problem.

**What do you know?**
- A piece of wood is _____ inches long.
- The wood will be cut into _____ -inch pieces.

**What do you need to find?**
- You need to find how many _____________.

### Step 2
**Plan**

- Logical reasoning
- Draw a picture
- Act it out
- Make an organized list
- Solve a simpler Problem

**Make a plan.**

Choose a strategy.

You may draw a picture or diagram. Show a piece of wood that is 40 inches long. Count by 8s to see how many 8-inch pieces will fit.

You can also write a number sentence (an equation). Each piece of wood is the same length. Use division to find how many 8-inch pieces of wood will fit.
### Reteach

**Problem-Solving Investigation (continued)**

#### Step 3

**Solve**

<table>
<thead>
<tr>
<th>Carry out your plan.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Plan 1</strong> Draw a diagram. Count up groups of 8.</td>
</tr>
<tr>
<td><img src="1824-1825.png" alt="Diagram" /></td>
</tr>
<tr>
<td>8 16 24 32 40</td>
</tr>
<tr>
<td>Count. There are _____ pieces of wood in all.</td>
</tr>
<tr>
<td><strong>Plan 2</strong> Write a division sentence.</td>
</tr>
<tr>
<td>_____ ÷ _____ = _____</td>
</tr>
<tr>
<td>He will have _____ pieces of wood.</td>
</tr>
</tbody>
</table>

#### Step 4

**Check**

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

---

**Solve.**

1. Thom and Julie collected cans for recycling. Thom collected 3 times as many as Julie. The total number collected by their class was 400 cans. Thom and Julie collected \( \frac{1}{4} \) of that. How many cans did they each collect?

---

2. Frank, Joyce, Dalia, and Amando were waiting for the train. Frank was next to Dalia. Dalia was not next to Amando. Amando was next to Joyce, but not next to Frank. In what order were they standing?
Skills Practice

Problem-Solving Investigation

Use any strategy shown below to solve.

- Use the four-step plan
- Solve a simpler problem
- Make an organized list
- Draw a picture
- Act it out
- Use logical reasoning

1. There are 86 students each on a bus. There are 5 buses that arrived at school. About how many students arrived at school?

2. Nicolas, Aaron, Olivia, and Jake each spent $25 at the store on school supplies. If Olivia spends $15 more on a new shirt, how much money did they spend in all?

3. Mario and Laura each have 17 sea shells. If Laura finds 25 more, will they have enough to completely fill a bag that holds 75 shells? Explain.

4. Sherry is making 23 batches of muffins for the bake sale. Each batch of muffins will sell for $3. How much money will be made at the bake sale if all the muffins sell?

5. Michele eats 20 grapes at lunch. She eats 35 grapes at dinner. If she eats 9 grapes for a snack, how many grapes will she eat in all? If there are 15 grapes left for breakfast, how many did Michele have in all?

6. Each box has 38 crackers. About how many crackers are in 7 boxes?

7. Dave went to school, then to the library for 1 hour, then to the store before returning home. He spends 30 minute in travel time. He gets out of school at 3:00. If he arrived at home at 5:30 how long did he spend at the store?
Homework Practice
Problem-Solving Investigation

Solve. Use any strategy shown below.

- Use the four-step plan
- Solve a simpler problem
- Make an organized list
- Draw a picture
- Act it out
- Use logical reasoning

1. It’s Monday night. Irene has to type 16 pages between now and Friday morning. How many pages will she need to type each night to meet her deadline?

2. Ernesto has 8 dimes, 2 nickels and 10 pennies. What is the fewest number of coins he could carry in his pocket that would equal the same amount of money?

3. Four friends were sitting around a table playing cards. Jude sat across from Pat, and Kurt was to the left of Jude. Where was Sean?

4. Alicia is trying to decide how much lemonade to make. If two cups equals a pint, and 2 pints equals a quart, how many cups are in 4 quarts?

5. Bernice is designing a diamond pattern for her new patchwork quilt. How many right triangles can she make out of a square of fabric?

6. Mariano was offering Jackie a deal. He was offering her five-eighths of a 9-inch pizza for four-ninths of a 9-inch cake. If Jackie accepts, who is getting more to eat?

Spiral Review

Multiply. (Lesson 14-4)

7. $22 \times 3 = \underline{__}$
8. $44 \times 2 = \underline{__}$
9. $23 \times 2 = \underline{__}$
10. $23 \times 3 = \underline{__}$
11. $12 \times 4 = \underline{__}$
12. $24 \times 2 = \underline{__}$
**Enrich**

**Bean Bag Toss**

Solve. Use estimating and rounding to help solve problems.
A bean bag can hit the same number more than once.

1. Dean threw two bean bags. One of the numbers he hit is even and the other is odd. When rounded, the product of the two numbers is closer to 700 than 600. What two numbers did Dean hit?
   _____ and _____

2. Marcia threw two bean bags. One number she hit is a common multiple of 3. When the numbers she hit are multiplied, their product rounded to the nearest thousand is 4,000. Both numbers are odd. What two numbers did Marcia hit?
   _____ and _____

3. Tamika threw two bean bags. One number she hit is a multiple of the other number she hit. Both numbers are even. The product of the two numbers is a 4-digit number. What two numbers did Tamika hit?
   _____ and _____

4. Tom threw two bean bags. The product of the two numbers he hit is a three-digit number. When rounded to the nearest 10, the product would be found on a number line between 590 and 630. What two numbers did Tom hit?
   _____ and _____
Multiply Two-Digit Numbers

Find \(4 \times 16\).

**Step 1**
Multiply the ones. Regroup if necessary.

\[
\begin{array}{c c c}
2 & \leftarrow & 2 \text{ tens} \\
16 & \times & 4 \\
\hline
4 & \leftarrow & 4 \text{ ones}
\end{array}
\]

**Think:** \(4 \times 16 = 24 \text{ ones}\)

\[
24 \text{ ones} = 2 \text{ tens } 4 \text{ ones}
\]

**Step 2**
Multiply the tens. Add all the tens.

\[
\begin{array}{c c c}
2 & \leftarrow & 2 \text{ tens} \\
16 & \times & 4 \\
\hline
64 & &
\end{array}
\]

**Think:** \(4 \times 1 \text{ ten} = 4 \text{ tens}\)

\[
4 \text{ tens} + 2 \text{ tens} = 6 \text{ tens}
\]

So, \(4 \times 16 = 64\).

**Multiply. Remember to regroup if necessary.**

1. \(15 \times 3 = \) 
2. \(38 \times 3 = \) 
3. \(59 \times 7 = \) 
4. \(68 \times 2 = \) 
5. \(74 \times 8 = \)

6. \(28 \times 5 = \) 
7. \(82 \times 6 = \) 
8. \(45 \times 4 = \) 
9. \(49 \times 2 = \) 
10. \(53 \times 8 = \)

11. \(45 \times 6 = \) 
12. \(58 \times 5 = \) 
13. \(38 \times 7 = \) 
14. \(95 \times 4 = \) 
15. \(34 \times 8 = \)

16. \(2 \times 39 = \) 
17. \(45 \times 7 = \) 
18. \(6 \times 77 = \)
### Skills Practice

**Multiply Two-Digit Numbers**

Multiply.

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>31</td>
<td>2.</td>
<td>38</td>
<td>3.</td>
</tr>
<tr>
<td></td>
<td>× 8</td>
<td></td>
<td>× 5</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>43</td>
<td>5.</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>× 7</td>
<td></td>
<td>× 8</td>
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<td>6.</td>
<td>24</td>
<td>7.</td>
<td>35</td>
<td>8.</td>
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<tr>
<td></td>
<td>× 8</td>
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<td>× 5</td>
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<td>9.</td>
<td>25</td>
<td>10.</td>
<td>78</td>
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<tr>
<td></td>
<td>× 5</td>
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<td>× 5</td>
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<tbody>
<tr>
<td>11.</td>
<td>59</td>
<td>12.</td>
<td>14</td>
<td>13.</td>
</tr>
<tr>
<td></td>
<td>× 2</td>
<td></td>
<td>× 3</td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>79</td>
<td>15.</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td></td>
<td>× 3</td>
<td></td>
<td>× 9</td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>16.</td>
<td>18</td>
<td>17.</td>
<td>64</td>
<td>18.</td>
</tr>
<tr>
<td></td>
<td>× 5</td>
<td></td>
<td>× 2</td>
<td></td>
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<p>| | | | | |</p>
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<thead>
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<th></th>
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<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>19.</td>
<td>2 × 92 =</td>
<td>20.</td>
<td>75 × 9 =</td>
<td>21.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22.</td>
<td>9 × 12 =</td>
<td>23.</td>
<td>2 × 15 =</td>
<td>24.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Solve.**

25. Becky charges $25 rent for each space at her flea market. If 8 people rent space, how much money does Becky get?

26. Mrs. Sands teaches 9 different classes at the high school. There are 36 students in each class. How many students does she teach?
**Homework Practice**

**Multiply Two-Digit Numbers**

Multiply.

1. \(24 \times 6 = \) ____  
2. \(15 \times 4 = \) ____  
3. \(56 \times 2 = \) ____  
4. \(19 \times 5 = \) ____

5. \(36 \times 3 = \) ____  
6. \(82 \times 4 = \) ____  
7. \(61 \times 6 = \) ____  
8. \(50 \times 5 = \) ____

Solve.

9. Elena was reading a book with 9 chapters. Each chapter had 21 pages. How many pages did the book have? _____

10. Laura walked her dog 6 blocks a day. How many blocks did she walk in 21 days? _____

11. There were 9 thirsty players in line. If each received a 20-ounce serving of lemonade, how many ounces of lemonade would be served to the players? _____

12. There were 7 ice cubes in each glass. How many ice cubes were needed for 18 glasses? _____

**Spiral Review**

Choose the best strategy to solve. (Lesson 14-5)

13. If one pair of jeans cost $9, how much would ten pairs of jeans cost? _____

14. Five students were in line. Emily was next to Isabel. Isabel was next to Brittany. Susana was last. Where was Ernesto? _____

15. Adam wanted to buy 10 newspapers at 8¢ apiece. How much money did he spend? _____
Use models to solve.

1. Vin works 16 days each month. How many days does he work in 2 months?

2. Gina earns $15 per hour. How much does she earn for 4 hours?

Solve.

3. Each lesson in a science book has 34 pages. There are 8 lessons in the book. If Ed reads all of the lessons, how many pages will he have read?

4. There are 25 white paper clips and 75 silver paper clips in each box. How many silver paper clips are in 9 boxes?

5. The school store sells a box of folders for $48 each. An office supply store has a special sale of 6 boxes of folders for $300. Which store sells 6 folders for less money? Explain.

6. Will has three large boxes of candles. There are 53 candles in each large box. Omar has 7 small boxes of candles. There are 24 candles in each small box. Who has more candles? Explain.
Multiply. Write the products in the crossmath puzzle.

Across
1. $4 \times 93$ 
3. $5 \times 43$
5. $3 \times 86$
7. $4 \times 21$
8. $3 \times 27$
9. $8 \times 82$
11. $2 \times 58$
12. $4 \times 39$

Down
1. $7 \times 56$
2. $8 \times 31$
3. $2 \times 14$
4. $7 \times 82$
6. $6 \times 91$
8. $9 \times 96$
10. $5 \times 69$

Why is it important to write the numbers in straight, vertical columns when solving multiplication problems?

Name ___________________________ Date ___________________________
Use what you know about multiplying 2-digit numbers to multiply 3- and 4-digit numbers.

Find \(2 \times 2,739\).

### Step 1
Multiply the ones. Regroup if necessary.

\[
\begin{array}{c}
1 \\
2,739 \\
\times \ 2 \\
\hline
8
\end{array}
\]

2 \times 9 \text{ ones} = 18 \text{ ones}
18 \text{ ones} = 1 \text{ ten} 8 \text{ ones}

### Step 2
Multiply the tens. Regroup if necessary.

\[
\begin{array}{c}
1 \\
2,739 \\
\times \ 2 \\
\hline
78
\end{array}
\]

2 \times 3 \text{ tens} = 6 \text{ tens}
6 \text{ tens} + 1 \text{ ten} = 7 \text{ tens}

### Step 3
Multiply the hundreds. Regroup if necessary.

\[
\begin{array}{c}
1 \\
2,739 \\
\times \ 2 \\
\hline
478
\end{array}
\]

2 \times 7 \text{ hundreds} = 14 \text{ hundreds} = 1 \text{ thousand} 4 \text{ hundreds}

### Step 4
Multiply the thousands. Regroup if necessary.

\[
\begin{array}{c}
1 \\
2,739 \\
\times \ 2 \\
\hline
5,478
\end{array}
\]

2 \times 2 \text{ thousands} = 4 \text{ thousands}
4 \text{ thousands} + 1 \text{ thousand} = 5 \text{ thousands}

### Multiply.

1. \[252 \times 3\]
2. \[164 \times 4\]
3. \[736 \times 6\]
4. \[205 \times 8\]
5. \[1246 \times 3\]
6. \[5718 \times 4\]
7. \[3962 \times 7\]
8. \[2498 \times 5\]
**Skills Practice**

**Multiply Greater Numbers**

Multiply.

1. 245 \times 2
2. 121 \times 6
3. 240 \times 7
4. 324 \times 4
5. 605 \times 8

6. 322 \times 7
7. 573 \times 3
8. 689 \times 2
9. 495 \times 5
10. 225 \times 9

11. 304 \times 8
12. 923 \times 4
13. 2,313 \times 3
14. 5,112 \times 4
15. 3,043 \times 6

16. 1,045 \times 8
17. 1,623 \times 7
18. 2,418 \times 9
19. 9,372 \times 5
20. 2,094 \times 9

21. 2 \times 638 = 
22. 6 \times 704 =

23. 2 \times 225 =
24. 8 \times 1,976 =

25. 4 \times 2,430 =
26. 3 \times 4,099 =

**Solve.**

27. The field trip to the art museum costs $11 per student. Mrs. King collects the money from the 6 students in her group. How much does she collect?

28. Each wing of the museum has 2,500 pieces of art on display. How many pieces of art are displayed in the 4 wings of the museum?
Multiply.

1. $152 \times 3 = \underline{\phantom{000}}$
2. $427 \times 4 = \underline{\phantom{000}}$
3. $127 \times 5 = \underline{\phantom{000}}$

4. $1,724 \times 3 = \underline{\phantom{000}}$
5. $536 \times 2 = \underline{\phantom{000}}$
6. $214 \times 3 = \underline{\phantom{000}}$

7. $521 \times 4 = \underline{\phantom{000}}$
8. $392 \times 6 = \underline{\phantom{000}}$
9. $2,386 \times 6 = \underline{\phantom{000}}$

10. $3,074 \times 7 = \underline{\phantom{000}}$
11. $812 \times 8 = \underline{\phantom{000}}$
12. $75 \times 7 = \underline{\phantom{000}}$

Solve.

13. A round-trip plane ticket to Ft. Worth, Texas, is $267. How much would 5 tickets cost? \underline{\phantom{000}}$

14. If there are 128 ounces in a gallon of milk, how many ounces are in 9 gallons? \underline{\phantom{000}}

15. Mrs. Hernadez took her class on a field trip to the zoo. Admission to the zoo was $5. There were 25 students in the class. How much did it cost for the class to enter the zoo? \underline{\phantom{000}}

Spiral Review

Multiply. (Lesson 4-6)

16. $32 \times 5 = \underline{\phantom{000}}$
17. $94 \times 3 = \underline{\phantom{000}}$

18. $57 \times 8 = \underline{\phantom{000}}$
19. $27 \times 6 = \underline{\phantom{000}}$

20. $81 \times 4 = \underline{\phantom{000}}$
21. $23 \times 4 = \underline{\phantom{000}}$
Problem-Solving Practice

Multiply Greater Numbers

Solve.

1. Pocket Electronics store has 2 floors of products. Each floor has 115 CD players. How many CD players are in the store?
   _____ CD players

2. Each rack in the electronics store has 161 DVDs. There are 3 racks. How many DVDs are in the store?
   _____ DVDs

3. It takes 494 gallons of paint to paint the outside of the school building. The building is painted every year. How many gallons of paint are used after 5 years of painting the building?
   _____ gallons

4. Seven new classrooms are being added to the Lumberton Elementary School. The floor in each classroom takes 1,276 tiles. How many tiles are needed to cover all of the floors of the new classrooms?
   _____ tiles

5. You must climb 1,060 steps to reach the second floor of the Eiffel Tower in Paris, France. Andre walked up and down three times. How many steps did he walk up and down all together?
   _____ steps

6. Neil is an airline pilot. On each of his first 4 trips, he flew 3,456 miles. On his last trip he flew 8,569 miles. How many miles did he fly in all 5 trips?
   _____ miles
Use place value to help find the products. Complete the chart as you work.

<table>
<thead>
<tr>
<th>Problem</th>
<th>100s</th>
<th>10s</th>
<th>1s</th>
<th>Add</th>
</tr>
</thead>
<tbody>
<tr>
<td>274 × 3</td>
<td>3 × 200 = 600</td>
<td>3 × 70 = 210</td>
<td>3 × 4 = 12</td>
<td>600 + 210 + 12 = 822</td>
</tr>
<tr>
<td>956 × 9</td>
<td>___ × ___ =</td>
<td>___ × ___ =</td>
<td>___ × ___ =</td>
<td>8,100 + 450 + 54 = 8,604</td>
</tr>
<tr>
<td>341 × 5</td>
<td>___ × ___ =</td>
<td>___ × ___ =</td>
<td>___ × ___ =</td>
<td>1,500 + 200 + 5 = 1,705</td>
</tr>
<tr>
<td>493 × 2</td>
<td>___ × ___ =</td>
<td>___ × ___ =</td>
<td>___ × ___ =</td>
<td>800 + 180 + 6 = 986</td>
</tr>
<tr>
<td>783 × 8</td>
<td>___ × ___ =</td>
<td>___ × ___ =</td>
<td>___ × ___ =</td>
<td>5,600 + 640 + 24 = 6,264</td>
</tr>
<tr>
<td>187 × 6</td>
<td>___ × ___ =</td>
<td>___ × ___ =</td>
<td>___ × ___ =</td>
<td>600 + 480 + 42 = 1,122</td>
</tr>
</tbody>
</table>

Does using this chart make the multiplication easier or more difficult? Explain your answer.
14–8

Reteach

Multiply Money

You learned how to multiply multi-digit numbers. You also learned how to multiply multi-digit numbers with regrouping. Multiplying money is no different. Just remember to add the decimal point two spaces over, and don’t forget the dollar sign!

Let’s try a problem together. First, pretend it’s just a regular multiplication problem.

1. $632 \times 4 = \underline{\hspace{2cm}}$
   
   Think: Four times two equals 8. Four times three equals 12, carry the one above the 6. Four times six equals 24 plus one makes 25. Answer: 2,528.

   600 times 4 equals 2,400, so my answer is reasonable.

2. Now look at the problem with decimal points:
   
   $6.32 \times 4 = \underline{\hspace{2cm}}$

   Think: My answer is 2,528, but slide that decimal two places over from the right. My answer is really 25.28.

3. Finally, remember that you are multiplying money. What’s missing? A dollar sign!

   $6.32 \times 4 = \underline{\hspace{2cm}}$

   Think: that dollar sign is missing, and it belongs in front of my answer. $25.28.

Remember, you can use a 0 right after the dollar sign as a place holder. For example, you can write 99 cents as $0.99. They mean the same thing.

Multiply.

1. $7.46 \times 4 = \underline{\hspace{2cm}}$

2. $6.92 \times 3 = \underline{\hspace{2cm}}$

3. $1.07 \times 5 = \underline{\hspace{2cm}}$

4. $2.05 \times 8 = \underline{\hspace{2cm}}$

5. $0.67 \times 2 = \underline{\hspace{2cm}}$

6. $3.19 \times 4 = \underline{\hspace{2cm}}$

7. Mrs. Pena bought frozen yogurt for Alonso and three of his friends. Each cone was $2.19. How much did Mrs. Pena spend on cones? ______
Multiply.

1. \(0.84 \times 6 = \) _____  
2. \(4.60 \times 2 = \) _____  
3. \(1.32 \times 5 = \) _____  

4. \(0.74 \times 9 = \) _____  
5. \(2.19 \times 7 = \) _____  
6. \(5.08 \times 4 = \) _____  

7. \(3.29 \times 3 = \) _____  
8. \(0.98 \times 8 = \) _____  
9. \(6.15 \times 2 = \) _____  

10. \(3.59 \times 4 = \) _____  
11. \(1.17 \times 6 = \) _____  
12. \(4.04 \times 2 = \) _____  

13. \(2.32 \times 3 = \) _____  
14. \(0.76 \times 5 = \) _____  
15. \(5.25 \times 4 = \) _____  

16. \(9.15 \times 7 = \) _____  
17. \(2.55 \times 6 = \) _____  
18. \(0.65 \times 8 = \) _____  

Solve.

19. Mrs. Diaz bought four packs of hot dogs at $4.79 each and 3 packages of buns at $1.79 each. How much did Mrs. Diaz spend on buns and hot dogs? _____

20. Erin was buying supplies for her new pet hamster. She needed two packages of bedding at $3.99 each, four bags of treats at $2.89 each, and three bags of food at $4.79 each. How much did Erin spend on her new pet? _____
Homework Practice

Multiply Money

Multiply.

1. \( $3.53 \times 4 = \) 
2. \( $2.75 \times 6 = \) 
3. \( $1.89 \times 7 = \) 
4. \( $0.99 \times 8 = \) 
5. \( $6.34 \times 3 = \) 
6. \( $4.28 \times 5 = \) 
7. \( $5.77 \times 2 = \) 
8. \( $7.09 \times 6 = \) 
9. \( 8 \times $4.89 = \)

Use the table to answer Exercises 10-12.

<table>
<thead>
<tr>
<th>Burt’s Car Wash</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wash only</td>
</tr>
<tr>
<td>Wash and Dry</td>
</tr>
<tr>
<td>Wash and Wax</td>
</tr>
<tr>
<td>Wash, Wax, Dry</td>
</tr>
</tbody>
</table>

10. If 9 cars go through Burt’s car wash and have a wash only, how much will it cost?

11. How much will it cost for three cars to have a wash, wax, and dry?

12. Antonio has his car washed and waxed at Burt’s every Saturday. How much does it cost him after 7 weeks?

13. Carla ordered 6 orders of fries. They cost $1.29 a piece. How much was the total bill?

14. Elena bought three new pairs of socks for $3.89 a pair. How much did she spend?

Spiral Review

Multiply. (Lesson 14-7)

15. \( 214 \times 7 = \) 
16. \( 1,305 \times 6 = \) 
17. \( 284 \times 8 = \) 
18. \( 346 \times 4 = \) 
19. \( 2,197 \times 5 = \) 
20. \( 3,721 \times 3 = \)
Solve.

1. Lee was buying pillows for her outdoor furniture. She bought eight pillows at $19.98 each to place on the outdoor sofa, and 4 pillows at $15.99 each to scatter on the outdoor chairs. How much money did Lee spend on new pillows? ______

2. Cathy was eager to add books to her collection. She became interested in a series that had 6 books in a set. Each book cost $6.99. How much would the set of 6 cost Cathy? ______

3. Each Saturday, Trevor mows lawns. The lawns are small, so he has time to mow 7 of them. He charges $25 for each lawn. How much does Trevor earn each Saturday? ______

4. Armando’s class was selling magazine subscriptions to help buy new equipment for the science room. Armando sold 10 subscriptions at $9.99 apiece. How much did Armando contribute to the cause? ______

5. Ava and her family went to the baseball game. Each ticket cost $8.50. If Ava went with her mother, father, and three siblings, how much money did they spend on tickets? ______

6. The scout troop was selling evergreen wreaths for the holidays. Each wreath cost $29.95. If they sold 4 wreaths, how much money did the troop make? ______

7. The school’s marching band was getting new uniforms. Each uniform cost $25.75. How much would 10 new uniforms cost? ______

8. Antonio was flying back to Boston to visit his grandmother. His mom and dad were sending him with his sister. If the tickets were $389 round trip, how much would it cost for them to fly? ______
Read and solve the problems.

1. The Ruiz Family is having a reunion. Luis’ family has 8 family members. Luis and his family want to have matching T-shirts. The shirts are $6.95 for the adult size and $4.95 for the children’s size. The family needs 4 adult shirts and 4 children’s shirts. How much will the family spend on the shirts?

2. Maria, Shelly, and Paul are going to buy muffins. There are 6 muffins in each package. The packages are $2.40. They think they will need 9 packages. How much will they spend on 9 packages? How many muffins will they have?

3. Marco’s family is buying balloons with the family name on them. The balloons cost $1.30 each. Marco and his family will tie 8 balloons to one end of 8 tables. How many balloons do they plan to buy? How much will the balloons cost? (Hint: Break the problem into several simpler problems if necessary.)
**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>multiply multi-digit numbers</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>estimate products</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>multiply money</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>solve problems by using logical reasoning</td>
<td></td>
</tr>
</tbody>
</table>

**Notes**

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Write a multiplication sentence for each array. Then multiply.

1. \[
\begin{array}{c}
| & | & | & | & |
| | | | |
\end{array}
\]
\[
\begin{array}{c}
| & | & | & | & |
| | | | |
\end{array}
\]

2. \[
\begin{array}{c}
| & | & | & | & |
\end{array}
\]

3. \[
\begin{array}{c}
| & | & | & | & |
\end{array}
\]

4. \[
\begin{array}{c}
| & | & | & | & |
\end{array}
\]

5. \[
\begin{array}{c}
| & | & | & | & |
\end{array}
\]

6. \[
\begin{array}{c}
| & | & | & | & |
\end{array}
\]

7. \[
\begin{array}{c}
| & | & | & | & |
\end{array}
\]

8. \[
\begin{array}{c}
| & | & | & | & |
\end{array}
\]

Multiply.

4. \[4 \times 6 = \square\]

5. \[3 \times 9 = \square\]

6. \[5 \times 10 = \square\]

7. \[2 \times 9 = \square\]

8. \[7 \times 4 = \square\]

9. \[8 \times 5 = \square\]

10. \[4 \times 2 = \square\]

11. \[9 \times 0 = \square\]

12. \[3 \times 3 = \square\]

13. \[7 \times 6 = \square\]

14. \[7 \times 2 = \square\]

15. \[7 \times 3 = \square\]

Round to the nearest ten.

16. 88

17. 51

18. 75

19. 23

Round to the nearest hundred.

20. 143

21. 176

22. 199

23. 112
Multiply.

1. $900 \times 8 =$
2. $7 \times 40 =$
3. $3,233 \times 3 =$
4. $2 \times 442 =$
5. $109 \times 6 =$
6. $1,807 \times 7 =$

Estimate. Round to the nearest ten.

7. $52 \times 4 =$
8. $68 \times 6 =$
9. $39 \times 9 =$

Estimate. Round to the nearest hundred.

10. $187 \times 5 =$
11. $119 \times 8 =$
12. $3 \times 499 =$

Estimate using basic facts and patterns.

13. $6,018 \times 4 =$
14. $1,112 \times 8 =$
15. $521 \times 9 =$
16. $7 \times 824 =$
Choose the best answer.

1. \(2 \times 100 = \)
   A. 20  \hspace{1cm} B. 200
   C. 2,000  \hspace{1cm} D. none of the above

2. \(1,000 \times 3 = \)
   F. 300  \hspace{1cm} G. 30
   H. 3,000  \hspace{1cm} J. none of the above

3. \(60 \times 80 = \)
   A. 480  \hspace{1cm} B. 408
   C. 4,800  \hspace{1cm} D. none of the above

4. Estimate \(356 \times 3 = \)
   F. 1,000  \hspace{1cm} G. 3,000
   H. 1,200  \hspace{1cm} J. none of the above

5. Estimate \(58 \times 9 = \)
   A. 500  \hspace{1cm} B. 522
   C. 540  \hspace{1cm} D. none of the above

6. Estimate \(1,092 \times 6 = \)
   F. 600  \hspace{1cm} G. 6,000
   H. 6,532  \hspace{1cm} J. none of the above

7. Jorge and Elena were ordering a pizza. Their choices were pepperoni, olive and onion, or green peppers. Both are vegetarian and Elena is allergic to peppers. What could they order?

8. Four students stood in one line alternating girls and boys. Amy was first, Alex was second, and Josh was last. Where was Ana?
Choose the best answer.

1. \(43 \times 3 = \)
   - A. 46
   - B. 49
   - C. 129
   - D. none of the above
   
2. \(70 \times 5 = \)
   - F. 35
   - G. 53
   - H. 350
   - J. none of the above
   
3. \(19 \times 5 = \)
   - A. 95
   - B. 45
   - C. 54
   - D. none of the above
   
4. \(26 \times 9 = \)
   - F. 184
   - G. 194
   - H. 234
   - J. none of the above
   
5. \(23 \times 2 = \)
   - A. 44
   - B. 45
   - C. 46
   - D. none of the above
   
6. \(67 \times 2 = \)
   - F. 120
   - G. 124
   - H. 130
   - J. 134
   
7. Mrs. Romero was rearranging the desks in the classroom. She had a 33-foot span in which she could place desks. Each desk was 3 feet wide. How many desks could she place in a row if the desks were 3 feet apart?

8. Olivia’s mom was making lunches. She had turkey, ham, and cheese. How many different kinds of sandwiches could Olivia’s mom make?
Choose the best answer.

1. $354 \times 4 =$
   A. 1,416  
   B. 1,146  
   C. 1,296  
   D. none of the above

2. $1,908 \times 5 =$
   F. 9,535  
   G. 9,533  
   H. 9,540  
   J. none of the above

3. $3,217 \times 3 =$
   A. 9,651  
   B. 9,456  
   C. 9,651  
   D. none of the above

4. $1,635 \times 8 =$
   F. 13,000  
   G. 13,080  
   H. 13,280  
   J. none of the above

5. $658 \times 8 =$
   A. 5,268  
   B. 5,262  
   C. 5,264  
   D. none of the above

6. $4,902 \times 7 =$
   F. 34,343  
   G. 34,314  
   H. 34,319  
   J. none of the above

7. Shelly’s dad was buying mulch to spread in his garden. The mulch was $3.99 a bag. He needed 8 bags to finish the job. How much did Shelly’s dad spend on mulch?

8. Lou’s mom was filling up at the gas station. Gas cost $2.49 a gallon. Lou’s mom needed 7 gallons to top off her tank. How much did she pay for her gas?
Choose the best answer.

1. $100 \times 9 =$
   A. 90,000        B. 9,000
   C. 900          D. 9
   1. _____________

2. $23 \times 3 =$
   F. 32        G. 56
   H. 69        J. 96
   2. _____________

3. $80 \times 6 =$
   A. 140        B. 400
   C. 4080       D. 480
   3. _____________

4. $34 \times 2 =$
   F. 54        G. 56
   H. 68        J. 86
   4. _____________

5. Four students in Mrs. Franco’s class were discussing their birthdays. Their birthdays fell in different seasons. Luis’s birthday was in January, Marta’s birthday was in August, Amy’s birthday was in April. Could Jessie’s birthday be in July or October?
   5. _____________

6. Five drinks sat on the counter. There were three lemonades, a water, and an apple juice. Elena drank the apple juice, Jeremy took the lemonade. Kristen only drank clear fluids. What did Brad drink?
   6. _____________

7. There were 25 students in Gilberto’s class. He was asked to bring plates for the class party. Plates were sold in packs of 10. How many packs of plates should Gilberto buy?
   7. _____________
Vocabulary Test

Match each word to its definition. Write your answers on the lines provided.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. multiples</td>
<td>A. find the product</td>
</tr>
<tr>
<td>2. estimate</td>
<td>B. to change the value of a number to one that is easier to work with</td>
</tr>
<tr>
<td>3. round</td>
<td>C. the product of a given number and any whole number</td>
</tr>
<tr>
<td>4. multiply</td>
<td>D. a number close to an exact value; an estimate indicates about how much</td>
</tr>
<tr>
<td>5. product</td>
<td>E. the answer to a multiplication problem</td>
</tr>
</tbody>
</table>
From the classroom, collect a pencil, an eraser, a book and a paperclip. Label them with the following prices respectively: $0.75, $0.50, $3.00 and $0.10.

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

1. How much would it cost if someone wanted to buy two erasers and 10 paperclips?

2. How much would it cost if someone wanted to buy 5 books?

3. How much would it cost if someone wanted to buy 4 books, 3 pencils, and 20 paperclips?

4. Tell how you got your answer.

5. How much would it cost if someone wanted to buy 10 books?

6. Explain your answer.

7. David spent 20 days at camp. He hiked 1 mile each day. How many total miles did he hike at camp?

8. David swam 2 hours a day. How many total hours did he swim at camp over the 20 days?

9. David slept 8 hours every night. How many total hours did he sleep at camp over the 20 days?

10. He ate 3 meals a day. How many total meals did he eat at camp over the 20 days?

11. Tell how you got your answer.

12. He led one activity a day. How many total activities did he lead at camp over the 20 days?

13. He ate 2 snacks a day. How many total snacks did he eat at camp over the 20 days?

14. Explain 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

### Multiply by One–Digit Numbers

#### Four-Door Book Foldables

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

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

Multiply.

1. \(105 \times 7\)
   \[\text{A. 705} \quad \text{B. 735} \quad \text{C. 1,005} \quad \text{D. 1,035} \quad 1. \quad \]  
2. \(1,926 \times 8\)
   \[\text{F. 8,268} \quad \text{G. 15,268} \quad \text{H. 15,368} \quad \text{J. 15,408} \quad 2. \quad \]  
3. \(8,000 \times 6\)
   \[\text{A. 480} \quad \text{B. 4,800} \quad \text{C. 48,000} \quad \text{D. 480,000} \quad 3. \quad \]  
4. \($5.76 \times 5\)
   \[\text{F. $28.80} \quad \text{G. $25.38} \quad \text{H. $250.50} \quad \text{J. $25.05} \quad 4. \quad \]  

Compare. Use \(>\), \(<\), or \(=\).

5. \($30.10 \times 5\) \(\square\) \($29.79 \times 4\)
   \[\text{A. >} \quad \text{B. <} \quad \text{C. =} \quad 5. \quad \]  
6. \(600 \times 5\) \(\square\) \(6 \times 500\)
   \[\text{F. >} \quad \text{G. <} \quad \text{H. =} \quad 6. \quad \]  

Estimate. Round to the nearest hundred.

7. \(407 \times 5\)
   \[\text{A. 2,500} \quad \text{B. 2,000} \quad \text{C. 250} \quad \text{D. 200} \quad 7. \quad \]  
8. \(158 \times 6\)
   \[\text{F. 1,200} \quad \text{G. 600} \quad \text{H. 120} \quad \text{J. 60} \quad 8. \quad \]
9. $603 \times 3$
   \[ \text{A. 1,200} \quad \text{B. 1,400} \quad \text{C. 1,600} \quad \text{D. 1,800} \] 9. _____

Find the missing factor to make the number sentence true.

10. \(9 \times \boxed{\phantom{0}} = 3,600\)
    \[ \text{F. 40} \quad \text{G. 400} \quad \text{H. 4,000} \quad \text{J. 40,000} \] 10. _____

Use the chart for Exercises 11 and 12.

<table>
<thead>
<tr>
<th>Aquarium Tickets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children under 4</td>
</tr>
<tr>
<td>Children ages 4–16</td>
</tr>
<tr>
<td>Adults over 17</td>
</tr>
<tr>
<td>Senior Citizens</td>
</tr>
</tbody>
</table>

11. A family of two adults and two children, ages 10 and 12, buy tickets to the aquarium. How much money do they spend?
   \[ \text{A. $41.88} \quad \text{B. $30.68} \quad \text{C. $20.94} \quad \text{D. $16.78} \] 11. _____

12. Mrs. Su buys 3 tickets. Her total cost is $22.20. What tickets did she buy?
    \[ \text{F. 2 children’s tickets and 1 adult ticket} \]
    \[ \text{G. 3 adult tickets} \]
    \[ \text{H. 2 adult tickets and 1 senior citizen ticket} \]
    \[ \text{J. 3 senior citizen tickets} \] 12. _____
Read each question carefully. Write your answer on the line provided.

Multiply.

1. $390 \times 5$
   - A. 195
   - B. 1,550
   - C. 1,950
   - D. 15,450
   - 1. ______

2. $3,146 \times 9$
   - F. 27,914
   - G. 27,964
   - H. 28,264
   - J. 28,314
   - 2. ______

3. $4,000 \times 7$
   - A. 280,000
   - B. 28,000
   - C. 2,800
   - D. 280
   - 3. ______

4. $7.02 \times 3$
   - F. $21.06$
   - G. $11.06$
   - H. $11.16$
   - J. $9.16$
   - 4. ______

Compare. Use $>$, $<$, or $=$.

5. $9.39 \times 6$ [ ] $4.40 \times 7$
   - A. $>$
   - B. $<$
   - C. $=$
   - 5. ______

6. $800 \times 9$ [ ] $900 \times 8$
   - F. $>$
   - G. $<$
   - H. $=$
   - 6. ______

Estimate. Round to the nearest hundred.

7. $309 \times 6$
   - A. 2,400
   - B. 1,800
   - C. 240
   - D. 180
   - 7. ______

8. $255 \times 3$
   - F. 900
   - G. 600
   - H. 9,000
   - J. 6,000
   - 8. ______
Chapter Test, Form 2A  (continued)

9.  $707 \times 5$
   A. 3,500  B. 4,500  C. 4,800  D. 5,000  9. _____

Find the missing factor to make the number sentence true.

10.  $6 \times \Box = 42,000$
   F. 70  G. 700  H. 7,000  J. 70,000  10. _____

Use the chart for Exercises 11 and 12.

<table>
<thead>
<tr>
<th>Museum Tickets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children under 5</td>
</tr>
<tr>
<td>Children ages 5–18</td>
</tr>
<tr>
<td>Adults over 18</td>
</tr>
<tr>
<td>Senior Citizens</td>
</tr>
</tbody>
</table>

11. A family of two adults and three children, ages 6, 9, and 11, buy tickets to the aquarium. How much money do they spend?
   A. $40.07  B. $36.77  C. $36.73  D. $30.07  11. _____

12. Mrs. Ortiz buys 3 tickets. Her total cost is $23.64. What tickets did she buy?
   F. 2 children’s tickets and 1 adult ticket
   G. 3 adult tickets
   H. 2 adult tickets and 1 senior citizen ticket
   J. 3 senior citizen tickets  12. _____
Chapter Test, Form 2B

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

Multiply.

1. \(530 \times 5\)
   - A. 2,150
   - B. 2,550
   - C. 2,650
   - 1. _____

2. \(6,601 \times 9\)
   - F. 60,409
   - G. 59,419
   - H. 59,409
   - 2. _____

3. \(3,000 \times 8\)
   - A. 240,000
   - B. 24,000
   - C. 2,400
   - 3. _____

4. \($3.06 \times 2\)
   - F. $6.12
   - G. $6.02
   - H. $6.00
   - 4. _____

Compare. Use >, <, or =.

5. \($9.59 \times 5\) \[\square\] \($6.60 \times 6\)
   - A. >
   - B. <
   - C. =
   - 5. _____

6. \(400 \times 7\) \[\square\] \(4 \times 700\)
   - F. >
   - G. <
   - H. =
   - 6. _____

Estimate. Round to the nearest hundred.

7. \(709 \times 7\)
   - A. 5,600
   - B. 4,900
   - C. 490
   - 7. _____

8. \(455 \times 3\)
   - F. 1,500
   - G. 1,200
   - H. 120
   - 8. _____
9. $540 \times 8$
   A. 4,000    B. 5,000    C. 6,000
9. _____

Find the missing number.

10. $5 \times \square = 45,000$
    F. 90      G. 900      H. 9,000
10. _____

Use the chart for Exercises 11 and 12.

<table>
<thead>
<tr>
<th>Tickets</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td>$5.88</td>
</tr>
<tr>
<td>Adult</td>
<td>$8.44</td>
</tr>
<tr>
<td>Senior Citizen</td>
<td>$6.99</td>
</tr>
</tbody>
</table>

11. Nancy buys 2 children’s tickets and 2 adult tickets. How much money is it?
   A. $28.64    B. $28.54    C. $25.74
11. _____

12. Mr. Garcia buys 3 tickets. His total cost is $20.97. What tickets did he buy?
   F. 2 children’s tickets and 1 adult ticket
   G. 3 senior citizen tickets
   H. 3 adult tickets
12. _____
Read each question carefully. Write your answer on the line provided.

Multiply.

1. $470 \times 5$
2. $6,731 \times 9$
3. $6,000 \times 7$
4. $4.07 \times 4$
5. $836 \times 5$
6. $1.36 \times 3$
7. $4,099 \times 2$
8. $30 \times 70$
9. $76 \times 3$
10. $7,153 \times 6$

Compare. Write $>$, $<$, or $=$.

11. $9.29 \times 4$ $\square$ $3.30 \times 5$
12. $600 \times 3$ $\square$ $300 \times 6$

Estimate. Round to the nearest hundred.

13. $708 \times 7$
14. $452 \times 5$
15. $609 \times 4$

Find the missing factor to make the number sentence true.

16. $3 \times \square = 1,800$
Solve.

17. Ann, Maria, Jack, and Rob are standing in line. Rob is in front of both Jack and Ann. Jack is in front of Ann but behind Maria. Maria is first in line. Order the students from first to last.

18. A photo album has 56 pages. Each page holds 8 pictures. How many pictures can the album hold in all?

Use the chart for Exercises 19 and 20.

<table>
<thead>
<tr>
<th>Play Tickets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children under 5</td>
</tr>
<tr>
<td>Children ages 5–18</td>
</tr>
<tr>
<td>Adults over 18</td>
</tr>
<tr>
<td>Senior Citizens</td>
</tr>
</tbody>
</table>

19. A family of two adults and three children, ages 7, 8, and 17, buy tickets to the play. How much money do they spend?

20. Mr. Olivio buys 3 tickets. His total cost is $20.31. What tickets did he buy?
Read each question carefully. Write your answer on the line provided.

Multiply.

1. \(360 \times 6\)  
2. \(6,913 \times 7\)  
3. \(4,000 \times 9\)  
4. \($4.97 \times 3\$\)  
5. \(638 \times 5\)  
6. \($7.46 \times 2\$\)  
7. \(5,990 \times 3\)  
8. \(20 \times 90\)  
9. \(68 \times 4\)  
10. \(1,374 \times 6\)  

Compare. Write >, <, or =.

11. \(800 \times 7\) \(700 \times 8\) 
12. \($9.59 \times 5\$\) \($6.60 \times 6\$\) 

Estimate. Round to the nearest hundred.

13. \(809 \times 4\)  
14. \(555 \times 6\)  
15. \(509 \times 8\)  

Find the missing number.

16. \(7 \times \_ = 2,100\)
Solve.

17. Alex is taller than Kim. Luis is shorter than Alex and Kim. List the students in order from tallest to shortest.

18. There are 24 hours in a day. How many hours are there in 9 days?

Use the chart for Exercises 19 and 20.

<table>
<thead>
<tr>
<th>Tickets</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td>$7.99</td>
</tr>
<tr>
<td>Adults</td>
<td>$10.77</td>
</tr>
<tr>
<td>Senior Citizens</td>
<td>$8.66</td>
</tr>
</tbody>
</table>

19. Scott buys 2 adult tickets and 2 senior citizen tickets. How much money is it?

20. Mr. Kent buys 3 tickets. His total cost is $23.97. What tickets did he buy?
Read each question carefully. Write your answer on the line provided.

Find the product.

1. $657 \times 6$
2. $4,979 \times 9$
3. $4,000 \times 8$
4. $\$6.06 \times 6$
5. $948 \times 5$
6. $\$7.37 \times 3$
7. $9,088 \times 2$
8. $80 \times 60$
9. $766 \times 3$
10. $781,543 \times 6$

Compare the quantities. Write $>$, $<$, or $=$.

11. $\$9.90 \times 6$ $\=$ $\$9.29 \times 5$
12. $700 \times 9$ $\neq$ $900 \times 7$

Estimate. Round to the nearest hundred.

13. $709 \times 9$
14. $651 \times 8$
15. $57,609 \times 4$

Find the missing factor to balance the number sentence.

16. $9 \times \_ = 63,000$
Solve.

17. Sima, Deena, Jen, Susanne, and Debbie each have a favorite subject: math, science, history, reading, or Spanish. Sima’s favorite subject does not start with the letter S. Jen’s favorite subject is not reading, math, or Spanish. In Debbie’s favorite subject, she learns about events that happened in the past. Deena loves learning other languages. Susanne’s favorite subject is not math. List each student’s favorite subject.

18. There are 60 seconds in a minute and 60 minutes in an hour. How many seconds are there in an hour?

Use the chart for Exercises 19 and 20.

**School Comedy Tickets**

<table>
<thead>
<tr>
<th>Ticket Prices</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Children under 4</td>
<td>FREE</td>
</tr>
<tr>
<td>Children ages 4-18</td>
<td>$4.99</td>
</tr>
<tr>
<td>Adults over 18</td>
<td>$7.88</td>
</tr>
</tbody>
</table>

*Remember: Students receive a $2.00 discount at the door.*

19. A family of two adults and three children, ages 7, 8, and 17, buy tickets to the comedy. Two of the children are students. How much money do they spend?

20. Mr. Romero buys 3 tickets. He gives the cashier a $20-bill, three $1-bills, two quarters, one dime, and four pennies. He does not receive any change. What tickets did Mr. Romero buy?
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.

1. Suppose you want to buy a present for your aunt. You have $25.00 and you want to buy 9 scented candles that cost $2.59 each. You want to find out whether you have enough money to buy the candles.

   a. Find the answer using estimation by rounding to the nearest dollar. Explain your reasoning.

   b. Find the answer by multiplying using regrouping. Show each step of your work.

2. The table below shows Katie’s Babysitting Schedule.

<table>
<thead>
<tr>
<th>Family Name</th>
<th>Pay per Hour</th>
<th>Hours (per month)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stein</td>
<td>$5.50</td>
<td>4</td>
</tr>
<tr>
<td>Collins</td>
<td>$7.50</td>
<td>2</td>
</tr>
<tr>
<td>Gilmore</td>
<td>$6.75</td>
<td>3</td>
</tr>
</tbody>
</table>

   a. How much money does Katie make per month? Show your work.

   b. Estimate whether Katie makes more money per month babysitting the Collins kids or the Gilmore kids. Explain which method of estimation you used.
Use this recording sheet with pages 622–623 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

Jerry reads 52 pages a day for 7 days. How many pages does he read in all?

A. 362  B. 364  C. 464  D. 565

Read the Question

You need to find how much Jerry reads in 7 days.

Solve the Question

Step 1
Jerry reads 52 pages a day for 7 days. To find how many pages he reads in 7 days, multiply 52 × 7.

Step 2
Multiply the ones.
2 × 7 = 14

Multiply the tens.
7 × 50 = 350

Step 3
Add the products.
14 + 350 = 364

The answer is B.

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

1. Tanya goes to ballet lessons 26 times a year. Each lesson lasts 2 hours. How many hours a year does she go to ballet lessons?
A. 26  B. 36  C. 52  D. 54

2. Pete earned $112 walking dogs. Paul earned 3 times as much delivering newspapers. How much did Paul earn?
F. $37  G. $112  H. $224  J. $336

3. If asparagus costs $2.25 a pound, how much does 5 pounds cost?
4. Bridget has 40 rare coins. Marney has 10 times as many as Bridget. How many rare coins does Marney have?
   F. 40 G. 400 H. 1,000 J. 4,000

5. If a gallon of milk costs $1.09, how much will 8 gallons cost?
   A. $2.18 B. $8.72 C. $9.09 D. $9.72

6. Amelia’s binder has 7 sections. Each section holds 14 pages of looseleaf. About how many pages of looseleaf does Amelia have in her binder?
   F. 60 G. 85 H. 100 J. 115

7. What decimal does the figure show?
   A. 0.03 B. 0.3 C. 3.0 D. 3.3

8. Mallory emptied the money in her pocket.
   How much money does she have?
   F. $1.55 G. $1.45 H. $1.35 J. $1.25

9. How many feet are in 6 yards?
   A. 6 feet B. 12 feet C. 18 feet D. 24 feet

10. Which expression describes the array shown below?
    F. $5 \times 8$ G. $6 \times 7$ H. $7 \times 5$ J. $6 \times 8$
Cumulative Standardized Test Practice (continued)

Multiply.

11. 500 \times 7 = _____  
12. 3 \times 40 = _____

13. 4,233 \times 2 = _____

Estimate. Round to the nearest ten.

14. If a dog drinks 21 ounces of water a day, about how much water does it drink in a week?

15. Lindsay gets $12.75 a week in allowance. About how much does she receive in a month?

16. A necklace has 88 beads per strand. About how many beads are in 9 strands?

Estimate. Round to the nearest hundred.

17. Carla’s older sister bought a used car with 7,867 miles on it. About how many miles did the car have on it?

18. A school marching band made $5,555 by selling t-shirts. About how much did the marching band make?

19. A new CD player with speakers sells for $299. If the electronics store sells 6 of these sets, about how much money would the store make?

20. The school cafeteria sells 1,109 lunches a week. About how many lunches does the school cafeteria sell in a month?
# Chapter 14 Assessment Answer Key

Page 72, Extended-Response Test

## Scoring Rubric

<table>
<thead>
<tr>
<th>Level</th>
<th>Specific Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>The student demonstrates a <em>thorough understanding</em> 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 <em>understanding</em> 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 <em>partial understanding</em> of the mathematics concepts and/or procedures embodied in the task. Although the student may have used the correct approach to obtaining a solution or may have provided a correct solution, the student’s work lacks an essential understanding of the underlying mathematical concepts. The response contains errors related to misunderstanding important aspects of the task, misuse of mathematical procedures, or faulty interpretations of results.</td>
</tr>
<tr>
<td>1</td>
<td>The student has demonstrated a <em>very limited understanding</em> 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 <em>completely incorrect</em> solution or uninterpretable response, or no response at all.</td>
</tr>
</tbody>
</table>
Chapter 14 Assessment Answer Key

Page 72, Extended-Response Test
Sample Answers

In addition to the scoring rubric found on page A1, the following sample answers may be used as guidance in evaluating open-ended assessment items.

1. **a.** To estimate by rounding, you use the rounding rules. $2.59 rounds to $3.00. If you multiply $9 \times $3.00, the candles will cost about $27.00. Since you only have $25.00, you won’t have enough to buy the candles.

   **b.** To find $2.59 \times 9:

   \[
   \begin{array}{c}
   \text{Step 1: Multiply ones.} \\
   9 \times 9 \text{ ones} = 81 \text{ ones.} \\
   \text{Regroup as 8 tens and 1 ones.} \\
   8 \\
   \$2.59 \\
   \times 9 \\
   \underline{1} \\
   \end{array}
   \]

   \[
   \begin{array}{c}
   \text{Step 2: Multiply tens.} \\
   9 \times 9 \text{ tens} = 81 \text{ tens.} \\
   \text{Add the 8 regrouped tens. Regroup as 5 hundreds and 3 tens.} \\
   5 \\
   \$2.59 \\
   \times 9 \\
   \underline{0.31} \\
   \end{array}
   \]

   \[
   \begin{array}{c}
   \text{Step 3: Multiply hundreds.} \\
   9 \times 2 \text{ hundreds} = 18 \text{ hundreds.} \\
   \text{Add the 5 hundreds.} \\
   5 \\
   \$2.59 \\
   \times 9 \\
   \underline{$23.31} \\
   \end{array}
   \]

   The answer is $23.31. Since you have $25.00, you will have enough to buy the candles.

2. **a.** Find out how much money Katie makes per month babysitting each family’s children by multiplying the pay per hour by the hours per month she babysits. Stein: $5.50 \times 4 = $22.00. Collins: $7.50 \times 2 = $15.00. Gilmore: $6.75 \times 3 = $20.25. Then add the amounts: $22.00 + $15.00 + $20.25 = $57.25.

   **b.** Katie makes more money babysitting the Gilmore kids. Using estimation by rounding, Katie makes about $16 per month babysitting the Collins kids. She makes about $21 per month babysitting the Gilmore kids.
### Anticipation Guide

**Multiply by One-Digit Numbers**

**Before you begin Chapter 14**
- 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>A, D, or NS</th>
<th>A, D, or NS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A multiple of a number is the product of that number and any whole number.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. 15 is a multiple of 5.</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>1. 17 is a multiple of 6.</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>4. An estimate is a number close to an exact value.</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>6. 47 + 22 is about 70.</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>7. A product is the answer to a multiplication problem.</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>8. In 4 x 9 = 36, 9 is the product.</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>9. In 4 x 4 = 16, 16 is the product.</td>
<td>D</td>
<td></td>
</tr>
</tbody>
</table>

**After you complete Chapter 14**
- 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.

### Graphic Organizer

**Multiply by One-Digit Numbers**

**Vocabulary Term**
- Definition
- Example

<table>
<thead>
<tr>
<th>Vocabulary Term</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>multiples</td>
<td>A multiple of a number is the product of that number and any whole number.</td>
<td>15 is a multiple of 5 because 3 x 5 = 15.</td>
</tr>
<tr>
<td>estimate</td>
<td>A number close to an exact value. An estimate indicates about how much.</td>
<td>47 + 22 (estimate 50 + 20) About 70</td>
</tr>
<tr>
<td>round</td>
<td>To change the value of a number to one that is easier to work with.</td>
<td>24 rounded to the nearest ten is 20.</td>
</tr>
<tr>
<td>product</td>
<td>The answer to a multiplication problem.</td>
<td>In 4 x 4 = 16, 16 is the product.</td>
</tr>
<tr>
<td>multiply</td>
<td>To find a product.</td>
<td>3 x 1</td>
</tr>
</tbody>
</table>
Name ___________________ Date ___________________

**Reteach**

Multiply Multiples of 10, 100, and 1,000

Find $5 \times 30$.
Make 5 groups with 30 in each group.

3 tens + 3 tens + 3 tens + 3 tens + 3 tens = 15 tens = 150
So, $5 \times 30 = 150$.

Find $4 \times 3,000$.
Use basic facts. Look for a pattern.

$4 \times 3 = 4 \times 3 \text{ ones} = 12 \text{ ones} = 12$
$4 \times 30 = 4 \times 3 \text{ tens} = 12 \text{ tens} = 120$
$4 \times 300 = 4 \times 3 \text{ hundreds} = 12 \text{ hundreds} = 1,200$
$4 \times 3,000 = 4 \times 3 \text{ thousands} = 12 \text{ thousands} = 12,000$
So, $4 \times 3,000 = 12,000$.

**Multiply**.

1. $3 \times 20 = \underline{60}$
2. $5 \times 40 = \underline{200}$
3. $7 \times 20 = \underline{140}$
4. $4 \times 20 = \underline{80}$
5. $2 \times 30 = \underline{60}$
6. $3 \times 30 = \underline{90}$
7. $7 \times 20 = \underline{140}$
8. $5 \times 60 = \underline{300}$
9. $4 \times 700 = \underline{2,800}$
10. $5 \times 600 = \underline{3,000}$
11. $2 \times 9,000 = \underline{18,000}$
12. $6 \times 8,000 = \underline{48,000}$

**Multiply. Use basic facts and patterns.**

1. $80$
2. $150$
3. $5 \times 2 = \underline{10}$
4. $3 \times 9 = \underline{27}$
5. $5 \times 20 = 100$
6. $5 \times 200 = 1,000$
7. $5 \times 2,000 = 10,000$
8. $3 \times 90 = 270$
9. $3 \times 900 = 2,700$
10. $3 \times 9,000 = 27,000$

**Multiply.**

5. $5 \times 30 = \underline{150}$
6. $5 \times 40 = \underline{200}$
7. $4 \times 7,000 = \underline{28,000}$
8. $3 \times 800 = \underline{2,400}$
9. $6 \times 20 = \underline{120}$
10. $3 \times 60 = \underline{180}$
11. $8 \times 40 = \underline{320}$
12. $9 \times 300 = \underline{2,700}$
13. $6 \times 30 = \underline{180}$
14. $3 \times 40 = \underline{120}$
15. $80 \times 5 = \underline{400}$
16. $600 \times 5 = \underline{3,000}$
17. $4,000 \times 6 = \underline{24,000}$
18. $700 \times 6 = \underline{4,200}$
19. $8 \times 7,000 = \underline{56,000}$
20. A library spends $1,000 each month for new books. How much does it spend in 6 months?
   **$6,000**
21. Tara puts some of her stickers in a book. She fills 2 pages. Each page has 40 stickers on it. How many stickers are on those pages?
   **80 stickers**
### Multiply. Use basic facts and patterns.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. $2 \times 3 = \underline{6}$</td>
<td>2. $7 \times 5 = \underline{35}$</td>
</tr>
<tr>
<td>$2 \times 30 = \underline{60}$</td>
<td>$7 \times 50 = \underline{350}$</td>
</tr>
<tr>
<td>$2 \times 300 = \underline{600}$</td>
<td>$7 \times 500 = \underline{3,500}$</td>
</tr>
<tr>
<td>$2 \times 3,000 = \underline{6,000}$</td>
<td>$7 \times 5,000 = \underline{35,000}$</td>
</tr>
<tr>
<td>4. $2 \times 7 = \underline{14}$</td>
<td>5. $6 \times 3 = \underline{18}$</td>
</tr>
<tr>
<td>$2 \times 70 = \underline{140}$</td>
<td>$6 \times 30 = \underline{180}$</td>
</tr>
<tr>
<td>$2 \times 700 = \underline{1,400}$</td>
<td>$6 \times 300 = \underline{1,800}$</td>
</tr>
<tr>
<td>$2 \times 7,000 = \underline{14,000}$</td>
<td>$6 \times 3,000 = \underline{18,000}$</td>
</tr>
<tr>
<td>7. $3 \times 80 = \underline{240}$</td>
<td>8. $5 \times 4,000 = \underline{20,000}$</td>
</tr>
<tr>
<td>9. $400 \times 8 = \underline{3,200}$</td>
<td>10. $20 \times 9 = \underline{180}$</td>
</tr>
<tr>
<td>11. $5,000 \times 6 = \underline{30,000}$</td>
<td>12. $30 \times 4 = \underline{120}$</td>
</tr>
<tr>
<td>13. $700 \times 6 = \underline{4,200}$</td>
<td>14. $7 \times 900 = \underline{6,300}$</td>
</tr>
</tbody>
</table>

### Solve.

1. Nathan earns $30 a week at his part-time job. How much does he earn in 3 weeks?

2. The fruit store has 2 crates of apples left to sell. There are 50 apples in each crate. How many apples are left in all?

3. Shelley wants to make 800 copies of the third-grade class newsletter. The newsletter is 6 pages long. How many sheets of paper will she need to make the copies?

4. Some computers send information at the speed of 200 megabytes every second. How many megabytes could be sent in 8 seconds?

5. Benson School has 3 third-grade classrooms. There are 3 computers in each of the classrooms. Each computer costs $2,000. How much did all of the third-grade computers cost?

6. A carpenter made 90 new shelves. The materials for each bookshelf cost $9. He sells the shelves for a total of $1,800. How much profit did he make?

### Write the part of a dollar each amount represents.

<table>
<thead>
<tr>
<th>Amount</th>
<th>Fraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>17. 50¢</td>
<td>$\frac{1}{2}$</td>
</tr>
<tr>
<td>18. 25¢</td>
<td>$\frac{1}{4}$</td>
</tr>
<tr>
<td>19. 20¢</td>
<td>$\frac{1}{5}$</td>
</tr>
<tr>
<td>20. 75¢</td>
<td>$\frac{3}{4}$</td>
</tr>
</tbody>
</table>
Reteach
Problem-Solving Strategy

Robin, Mark, and Monica each have one pet. The pets include a cat, a dog, and a bird. Robin’s pet has fur. Mark’s pet has two legs. Monica does not have a cat. What pet does each person have?

Step 1
Understand
Be sure you understand the problem. Read carefully.

What do you know?
• Each person has a different pet.
• Robin’s pet has fur.
• Mark’s pet has two legs.
• Monica does not have a cat.

What do you need to know?
• You need to find which pet each person has.

Step 2
Plan
Make a plan.
Choose a strategy.

Make a table to organize the information. Then use logical reasoning to solve the problem.

Step 3
Solve
Carry out your plan.
Robin’s pet has fur. Write no next to Robin’s name under bird.

Mark’s pet has two legs. Write yes next to his name under bird. Write no next to his name under cat and dog.
Answers (Lesson 14–2)

Skills Practice

Problem-Solving Strategy

Solve. Use logical reasoning.

1. Doug, Rachel, Mike, and Holly are each wearing different colored shoes. Doug is not wearing black. Rachel is not wearing red or blue. Holly is not wearing blue. Mike is wearing brown shoes. What color of shoes is each person wearing?

<table>
<thead>
<tr>
<th></th>
<th>Brown</th>
<th>Black</th>
<th>Red</th>
<th>Blue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doug</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Rachel</td>
<td>no</td>
<td>yes</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Mike</td>
<td>yes</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Holly</td>
<td>no</td>
<td>no</td>
<td>yes</td>
<td>no</td>
</tr>
</tbody>
</table>

Possible answer: Doug: blue, Rachel: black, Mike: brown, Holly: red

2. Sue, Kara, Jonny, and Pat each have a different chore. Sue does not do dishes, Kara does not fold laundry or make beds, Jonny does not make beds or cut grass. Pat cuts the grass. What chores does each person do?

Sue: makes beds, Kara: does dishes, Jonny: folds laundry, Pat: cuts grass

3. Marissa, Stephan, and Neal are standing in line for the movies. Stephan is not first. Marissa is next to Stephan. Neal is last. List the order from first to last in which they are standing.

Marissa, Stephan, Neal

4. Maria, Jason, Thomas, and Taj are running for class president. Jason has 68 votes more than Taj. Maria has 25 fewer votes than Jason, Thomas has twice as many votes as Taj. Taj has 65 votes. Who won the election? How many votes did each person receive?

Jason won; Maria: 108 votes, Jason: 133 votes, Thomas: 130 votes, Taj: 65 votes.

5. Four friends are each wearing different colored shirts. The shirts are pink, yellow, blue, and green. Davey is not wearing pink. Dee is not wearing yellow. Chaz is not wearing green or pink. Phil is wearing blue. What color shirt is each person wearing?

Davey: green, Dee: pink, Chaz: yellow, Phil: blue

6. Darius, Chuck, Sam, and Erin are lining up for a play. Darius is not first. Chuck is next to Sam and Erin. Sam is not last. Erin is first. What order are they standing in line for the play?

Erin, Chuck, Sam, Darius
Find the Missing Factor

Rearrange the digits in the boxes to find the missing factor for each multiplication problem.

1. \[ \boxed{3, 1, 0} \times 7 = 721 \]
2. \[ \boxed{5, 1, 3} \times 4 = 540 \]
3. \[ \boxed{7, 2, 9} \times 3 = 297 \]
4. \[ \boxed{2, 7, 6} \times 2 = 726 \]
5. \[ \boxed{6, 5, 4} \times 5 = 2546 \]
6. \[ \boxed{7, 5, 3} \times 6 = 357 \]
7. \[ \boxed{4, 0, 1, 5} \times 3 = 1045 \]

8. Identify the strategies you used to solve these problems.
   
   possible answers: guess and check; division; estimate

Solve. Use logical reasoning.

1. There were three horses in four stalls. Lightning was in the first stall and Pinto was in the fourth. Ginger was next to Lightning. Which stall was empty? \[ \boxed{3^{\text{rd}} \text{ stall}} \]
2. Ben was hungry for a good snack, but wasn't sure what to choose from the fruit basket. The bananas, apples, pears, and kiwis looked delicious. He was walking out the door, so he didn't want to deal with a peel, and the pears and kiwis weren't ripe. What did he pick? \[ \text{apple} \]
3. Katie was the oldest of five children. She had one younger sister and three younger brothers. Brendan was in the middle, Tommy was older than Brendan, and Brendan was older than Lily, who was older than John. Where did John fall in the family? \[ \text{the youngest} \]
4. What is the largest three digit number you can write without using a 9 in the hundreds place or ones place, or an 8 in the tens place? \[ \boxed{898} \]
5. Five cats were in the backyard. Oscar belonged to Robin. Gizmo belonged to Jason. Cosmo and Burt didn't belong to Kirsten, and Speck didn't belong to Pat. What are the names of Pat's two cats? \[ \boxed{Cosmo \text{ and Burt}} \]
6. Carmen, Manuel, and Diego argued about who was first in line. Diego had been line leader last week, and the teacher said "ladies first." Who will be first in line? \[ \text{Carmen} \]
7. Marta made three sandwiches; turkey on a roll, ham on white, and tuna on rye. Jen doesn't like rolls and Ana doesn't care for deli meats. What is Marta left with for lunch? \[ \text{turkey on a roll} \]

Multiply. (Lesson 14–1)

8. \[ 80 \times 6 = \boxed{480} \]
9. \[ 6 \times 5,000 = \boxed{30,000} \]
10. \[ 7 \times 70 = \boxed{490} \]
11. \[ 400 \times 2 = \boxed{800} \]
12. \[ 20 \times 2 = \boxed{40} \]
13. \[ 300 \times 9 = \boxed{2,700} \]
**Reteach**

**Estimate Products**

To estimate a product, round the factor that is greater than 10.

1. Estimate: $4 \times 63$
   - $4 \times 60 = 240$

2. Estimate: $3 \times 589$
   - $3 \times 600 = 1,800$

3. Estimate: $8 \times 2,500$
   - $8 \times 3,000 = 24,000$

Estimate Show your work.

1. $5 \times 33 = 150$
2. $7 \times 50 = 350$
3. $2 \times 200 = 400$
4. $6 \times 800 = 4,800$
5. $3 \times 600 = 1,800$

Sample estimates are given. Accept all reasonable estimates.

6. $6 \times 41 = 246$
7. $7 \times 88 = 616$
8. $4 \times 532 = 2,128$
9. $8 \times 365 = 2,920$
10. $8 \times 905 = 7,240$
11. $9 \times 756 = 7,200$
12. $9 \times 134 = 906$

**Skills Practice**

Estimate Products

Sample estimates are given. Accept all reasonable estimates.

1. $56 \times 1 = \underline{60}$
2. $39 \times 0 = \underline{0}$
3. $82 \times 1 = \underline{80}$
4. $81 \times 7 = \underline{560}$
5. $90 \times 1 = \underline{90}$
6. $61 \times 8 = \underline{480}$
7. $43 \times 5 = 200$
8. $9 \times 28 = 270$
9. $22 \times 4 = 80$
10. $72 \times 4 = 280$
11. $6 \times 59 = 360$
12. $91 \times 7 = 630$
13. $54 \times 6 = 300$
14. $7 \times 43 = 280$
15. $13 \times 3 = 30$
16. $6 \times 17 = 120$
17. $85 \times 2 = 180$
18. $5 \times 47 = 250$

Estimate. Round to the nearest hundred.

19. $9 \times 101 = 900$
20. $152 \times 3 = 600$
21. $6 \times 722 = 4,200$
22. $567 \times 8 = 4,800$
23. $487 \times 5 = 2,500$
24. $2 \times 913 = 1,800$
25. $7 \times 238 = 1400$
26. $203 \times 4 = 800$
27. $1 \times 455 = 500$

Solve.

28. There are 42 rows of 7 chairs in the movie theater. About how many chairs are there? **about 280 chairs**
29. There are 26 tables in the room and 6 chairs around each table. About how many chairs are there? **about 180 chairs**
Solve. Use logical reasoning. (Lesson 14–2)

20. Four girls discussed their favorite colors. Olivia likes the color of oranges and pumpkins. Marisol likes the hues of grass and tree leaves. Patricia likes shades similar to apples and cherries. Cristina likes the color of the sky when the sun is shining. What color did each girl like?

   **Olivia likes orange, Marisol likes green, Patricia likes red, and Cristina likes blue.**

21. There were three gifts in three boxes. The toy was not in the metal box. The homemade pretzels were not in a cardboard box. The stuffed animal was not in a wooden or cardboard box. What gifts were in each of the boxes?

   **The stuffed animal was in the metal box, the homemade pretzels were in the wooden box, and the toy was in the cardboard box.**

22. 

   - 1. Each third-grade class has 25 students. There are three classes. About how many third-grade students are there in all? Round the answer to the nearest ten.
   - 2. Adam earned 38 points on each of 4 quizzes. Does he have more than 100 total points? Explain.
   - 3. Chad has 6 different packages of napkins. Each package has 44 napkins. About how many napkins does he have in all?
   - 4. Dana's family wants to buy 4 puzzles that cost $17 each. They have $50 to spend. Do they have enough money for the 4 puzzles? Explain.
   - 5. Habib made 3 sandwiches. Each sandwich has 478 Calories. About how many total number of Calories are in the three sandwiches?
   - 6. Erica has $5 to buy new pencils. She wants 1 purple pencil, 2 green pencils, 1 red pencil, and 5 blue pencils. Each pencil costs 49¢. Does she have enough money to buy all of the pencils she wants? Explain.

   **Yes, 9 pencils will cost about $4.50, which is less than 5.00.**
Multiply by a One-Digit Number

You can multiply using models or pencil and paper.

Find 4 × 21.
Show 4 groups of 21.
You can record this way:

Step 1
Multiply the ones.
4 × 1 ones = 4 ones

2 1
____
× 4
4

Step 2
Multiply the tens.
4 × 2 tens = 8 tens

2 1
____
× 4
4
____
+ 80
84

Step 3
Add.

21
____
× 4
4
____
+ 80
84

Complete to find the product. You may use models to help you.

1. 23
2. 44
3. 31
4. 23
5. 13
6. 23
7. 41
8. 31
9. 22
10. 12
11. 8 × 11 = 88
12. 2 × 11 = 22
13. 3 × 33 = 99
14. 22 × 3 = 66
15. 11 × 9 = 99
16. 2 × 22 = 44
Multiply by a One-Digit Number

Multiply.

1. 11
   \( \times 6 \)
   66
2. 12
   \( \times 2 \)
   24
3. 22
   \( \times 2 \)
   44
4. 14
   \( \times 2 \)
   28
5. 23
   \( \times 3 \)
   69
6. 24
   \( \times 2 \)
   48
7. 21
   \( \times 4 \)
   84
8. 40
   \( \times 2 \)
   80
9. 20
   \( \times 3 \)
   60
10. 13
    \( \times 3 \)
    39
11. 12
    \( \times 3 \)
    36
12. 12
    \( \times 3 \)
    36
13. 21
    \( \times 2 \)
    42
14. 11
    \( \times 5 \)
    55
15. 11
    \( \times 2 \)
    22

16. 13 \times 2 = 26
17. 12 \times 4 = 48
18. 9 \times 11 = 99
19. 4 \times 20 = 80
20. 21 \times 2 = 42
21. 40 \times 2 = 80
22. 7 \times 11 = 77
23. 22 \times 4 = 88
24. 11 \times 8 = 88
25. Multiply 21 by 3. 63
26. Multiply 20 by 2. 40
27. Multiply 11 by 3. 33
28. Multiply 13 by 2. 26
29. Multiply 30 by 2. 60
30. Multiply 11 by 4. 44

Solve.

31. A rectangle is 3 tiles wide by 13 tiles high. How many tiles are in the rectangle? 39 tiles
32. Books are stacked in 3 stacks with 12 books in each stack. How many books are in the stacks? 36 books

Multiply.

1. 44
   \( \times 2 \)
   88
2. 23
   \( \times 2 \)
   46
3. 14
   \( \times 2 \)
   28
4. 23
   \( \times 3 \)
   69
5. 11 \times 8 = 88
6. 30 \times 3 = 90
7. 41 \times 2 = 82
8. 21 \times 4 = 84
9. 33 \times 2 = 66
10. 13 \times 2 = 26
11. 20 \times 3 = 60
12. 11 \times 7 = 77

Estimate. Round to the nearest ten or hundred. (Lesson 14–3)

17. 85 \times 6 = 540
18. 703 \times 4 = 2,800
19. 315 \times 4 = 1,200
20. 895 \times 3 = 2,700
21. 56 \times 7 = 420
22. 49 \times 5 = 250

Sample estimates are given. Accept all reasonable estimates.
**Problem-Solving Practice**

Multiply by a One-Digit Number

1. The straight part of Jane’s train track has 2 tracks. Each track is 13 inches. How many inches long is the straight part of the train track? 26 inches

2. Tom owns 3 sets of trains. Each set has 12 train cars. How many train cars does Tom have in all? 36 train cars

3. The border around a bulletin board is 35 inches long. There are 3 pieces of border paper left. Each piece is 11 inches long. Is there enough border paper to go around the bulletin board border? Explain. No; 3 × 11 = 33 and 33 < 35

4. There are 3 groups of students. Each group has 8 sheets of paper. How many sheets of paper are there in all? 24 sheets of paper

5. Sam can make 11 beaded necklaces in an hour. Sue can make 12 beaded necklaces in an hour. In one week Sam made necklaces for 6 hours and Sue made them for 3 hours. Who makes more necklaces in the week? Explain. Sam; 6 × 11 = 66 and 3 × 12 = 36; 66 > 36

6. Each box has 50 of the same colored beads. Every bracelet has 4 blue beads and 3 red beads. If Jackie makes 12 bracelets, how many beads will be left in the box of blue beads? 2 blue beads

   How many will be left in the box of red beads? 14 red beads

**Enrich**

Backward Birthday Surprise

Multiply. Then, find the products in the boxes below and shade in those squares. Some shaded digits will overlap. Three boxes are shaded for you.

1. 4 × 60 = 240
2. 6 × 600 = 3,600
3. 9 × 20 = 180
4. 7 × 60 = 420
5. 7 × 900 = 6,300
6. 3 × 4,000 = 12,000
7. 8 × 80 = 640
8. 4 × 8,000 = 32,000
9. 1 × 700 = 700
10. 5 × 800 = 4,000
11. 8 × 10 = 80
12. 6 × 800 = 4,800
13. 7 × 4,000 = 28,000
14. 8 × 7,000 = 56,000

Hold your answer up to a mirror to reveal an important birthday. Whose birthday is it? The United States of America’s birthday
Problem-Solving Investigation

If Dave cuts a 40-inch-long piece of wood into 8-inch pieces, how many pieces will he have?

Step 1
Understand
Be sure you understand the problem.
What do you know?
• A piece of wood is 40 inches long.
• The wood will be cut into 8-inch pieces.
What do you need to find?
• You need to find how many 8-inch pieces of wood can be cut from a 40-inch long piece of wood.

Step 2
Plan
Make a plan.
Logical reasoning
Draw a picture
Act it out
Make an organized list
Solve a simpler Problem
You may draw a picture or diagram. Show a piece of wood that is 40 inches long. Count by 8s to see how many 8-inch pieces will fit.
You can also write a number sentence (an equation). Each piece of wood is the same length. Use division to find how many 8-inch pieces of wood will fit.

Step 3
Solve
Plan 1
Draw a diagram. Count up groups of 8.

8
16
24
32
40

Count. There are 5 pieces of wood in all.

Plan 2
Write a division sentence.

\[ \frac{40}{8} = 5 \]

He will have 5 pieces of wood.

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

multiply; 5 \times 8 = 40

Solve.

1. Thom and Julie collected cans for recycling. Thom collected 3 times as many as Julie. The total number collected by their class was 400 cans. Thom and Julie collected \( \frac{1}{2} \) of that. How many cans did they each collect?

Julie: 25, Thom: 75

2. Frank, Joyce, Dalia, and Amando were waiting for the train. Frank was next to Dalia. Dalia was not next to Amando. Amando was next to Joyce, but not next to Frank. In what order were they standing?

Frank, Dalia, Joyce, Amando
Answers

Chapter 14

1. There are 86 students each on a bus. There are 5 buses that arrived at school. About how many students arrived at school?
   - about 450

3. Mario and Laura each have 17 sea shells. If Laura finds 25 more, will they have enough to completely fill a bag that holds 75 shells? Explain.
   - No; 17 × 2 = 34, 34 + 25 = 59, 59 < 75

5. Michele eats 20 grapes at lunch. She eats 35 grapes at dinner. If she eats 9 grapes for a snack, how many grapes will she eat in all? If there are 15 grapes left for breakfast, how many did Michele have in all?
   - 64 grapes; 79 grapes

7. Dave went to school, then to the library for 1 hour, then to the store before returning home. He spends 30 minute in travel time. He gets out of school at 3:00. If he arrived at home at 5:30 how long did he spend at the store?
   - 1 hour

- Use the four-step plan
- Solve a simpler problem
- Make an organized list
- Draw a picture
- Act it out
- Use logical reasoning

2. Nicolas, Aaron, Olivia, and Jake each spent $25 at the store on school supplies. If Olivia spends $15 more on a new shirt, how much money did they spend in all?
   - $115 in all

4. Sherry is making 23 batches of muffins for the bake sale. Each batch of muffins will sell for $3. How much money will be made at the bake sale if all the muffins sell?
   - $69

6. Each box has 38 crackers. About how many crackers are in 7 boxes?
   - about 280 crackers

8. Multiply. (Lesson 14-4)
   - 1. 22 × 3 = 66
   - 2. 23 × 2 = 46
   - 3. 23 × 3 = 69
   - 4. 24 × 2 = 48

- Use the four-step plan
- Solve a simpler problem
- Make an organized list
- Draw a picture
- Act it out
- Use logical reasoning

2. Ernesto has 8 dimes, 2 nickels and 10 pennies. What is the fewest number of coins he could carry in his pocket that would equal the same amount of money?
   - 4 quarters

4. Alicia is trying to decide how much lemonade to make. If two cups equals a pint, and 2 pints equals a quart, how many cups are in 4 quarts?
   - 16 cups

6. Mariano was offering Jackie a deal. He was offering her five-eighths of a 9-inch pizza for four-ninths of a 9-inch cake. If Jackie accepts, who is getting more to eat?
   - Jackie

Solve. Use any strategy shown below.

- Use the four-step plan
- Solve a simpler problem
- Make an organized list
- Draw a picture
- Act it out
- Use logical reasoning

2. It's Monday night. Irene has to type 16 pages between now and Friday morning. How many pages will she need to type each night to meet her deadline?
   - 4 pages per night

4. Four friends were sitting around a table playing cards. Jude sat across from Pat, and Kurt was to the left of Jude. Where was Sean?
   - across from Kurt, left of Pat, or right of Jude

5. Bernice is designing a diamond pattern for her new patchwork quilt. How many right triangles can she make out of a square of fabric?
   - 2 right triangles

- Use the four-step plan
- Solve a simpler problem
- Make an organized list
- Draw a picture
- Act it out
- Use logical reasoning

3. Dave went to school, then to the library for 1 hour, then to the store before returning home. He spends 30 minute in travel time. He gets out of school at 3:00. If he arrived at home at 5:30 how long did he spend at the store?
   - 1 hour

- Use the four-step plan
- Solve a simpler problem
- Make an organized list
- Draw a picture
- Act it out
- Use logical reasoning

2. Ernesto has 8 dimes, 2 nickels and 10 pennies. What is the fewest number of coins he could carry in his pocket that would equal the same amount of money?
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   - 16 cups

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   - Jackie

Solve. Use any strategy shown below.

- Use the four-step plan
- Solve a simpler problem
- Make an organized list
- Draw a picture
- Act it out
- Use logical reasoning

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5. Bernice is designing a diamond pattern for her new patchwork quilt. How many right triangles can she make out of a square of fabric?
   - 2 right triangles

- Use the four-step plan
- Solve a simpler problem
- Make an organized list
- Draw a picture
- Act it out
- Use logical reasoning

3. Dave went to school, then to the library for 1 hour, then to the store before returning home. He spends 30 minute in travel time. He gets out of school at 3:00. If he arrived at home at 5:30 how long did he spend at the store?
   - 1 hour
1. Dean threw two bean bags. One of the numbers he hit is even and the other is odd. When rounded, the product of the two numbers is closer to 700 than 600. What two numbers did Dean hit? **69** and **10**

2. Marcia threw two bean bags. One number she hit is a common multiple of 3. When the numbers she hit are multiplied, their product rounded to the nearest thousand is 4,000. Both numbers are odd. What two numbers did Marcia hit? **9** and **425**

3. Tamika threw two bean bags. One number she hit is a multiple of the other number she hit. Both numbers are even. The product of the two numbers is a 4-digit number. What two numbers did Tamika hit? **6** and **744**

4. Tom threw two bean bags. The product of the two numbers he hit is a three-digit number. When rounded to the nearest 10, the product would be found on a number line between 590 and 630. What two numbers did Tom hit? **9** and **69**

5. Multiply. Remember to regroup if necessary.

   **1.**
   - 15 \(\times\) 3 = 45
   - 59 \(\times\) 7 = 413
   - 68 \(\times\) 2 = 136
   - 74

   **2.**
   - 28 \(\times\) 3 = 84
   - 45 \(\times\) 5 = 225
   - 49 \(\times\) 4 = 196
   - 53

   **3.**
   - 9 \(\times\) 6 = 54
   - 38 \(\times\) 4 = 152
   - 38 \(\times\) 7 = 266
   - 34

   **4.**
   - 270 \(\times\) 2 = 540
   - 290 \(\times\) 3 = 870
   - 266 \(\times\) 4 = 1064
   - 272

   **5.**
   - 380 \(\times\) 5 = 1900
   - 272 \(\times\) 6 = 1632
   - 188

16. \(2 \times 39 = \) **78**

17. \(45 \times 7 = \) **315**

18. \(6 \times 77 = \) **462**
Multiply Two-Digit Numbers

Multiply.

1. 31 \times 8 = 248
2. 38 \times 5 = 190
3. 28 \times 2 = 56
4. 43 \times 7 = 301
5. 17 \times 8 = 136
6. 24 \times 7 = 168
7. 35 \times 5 = 175
8. 75 \times 2 = 150
9. 25 \times 5 = 125
10. 78 \times 5 = 390
11. 59 \times 2 = 118
12. 14 \times 3 = 42
13. 61 \times 6 = 366
14. 79 \times 3 = 237
15. 44 \times 9 = 396
16. 18 \times 5 = 90
17. 64 \times 2 = 128
18. 36 \times 7 = 252
19. 2 \times 92 = 184
20. 75 \times 9 = 675
21. 3 \times 85 = 255
22. 9 \times 12 = 108
23. 2 \times 15 = 30
24. 32 \times 4 = 128

Solve.

25. Becky charges $25 rent for each space at her flea market. If 8 people rent space, how much money does Becky get? $200
26. Mrs. Sands teaches 9 different classes at the high school. There are 36 students in each class. How many students does she teach? 324 students

Choose the best strategy to solve. (Lesson 14–5)

13. If one pair of jeans cost $9, how much would ten pairs of jeans cost? $90

14. Five students were in line. Emily was next to Isabel. Isabel was next to Brittany. Susana was last. Where was Ernesto? fourth in line between Brittany and Susana or in front: Ernesto, Emily, Isabel, Brittany, Susana

15. Adam wanted to buy 10 newspapers at 8¢ apiece. How much money did he spend? 80¢
**Problem-Solving Practice**

**Multiply Two-Digit Numbers**

*Use models to solve.*

1. Vin works 16 days each month. How many days does he work in 2 months?

   __32__ days

2. Gina earns $15 per hour. How much does she earn for 4 hours?

   __$60__

*Solve.*

3. Each lesson in a science book has 34 pages. There are 8 lessons in the book. If Ed reads all of the lessons, how many pages will he have read?

   __272__ pages

4. There are 25 white paper clips and 75 silver paper clips in each box. How many silver paper clips are in 9 boxes?

   __675__ silver paper clips

5. The school store sells a box of folders for $48 each. An office supply store has a special sale of 6 boxes of folders for $300. Which store sells 6 folders for less money? Explain.

   prison store; __$48 × 6 < $300__

   *Omar; 53 × 3 = 159, 24 × 7 = 168, 168 > 159*

**Enrich**

**Multiplication Crossmath Puzzle**

Multiply. Write the products in the crossmath puzzle.

**Across**

1. __9 × 4 = 36__
2. __5 × 8 = 40__
3. __2 × 8 = 16__
4. __4 × 8 = 32__
5. __3 × 7 = 21__
6. __5 × 6 = 30__
7. __7 × 8 = 56__
8. __8 × 4 = 32__
9. __6 × 3 = 18__
10. __1 × 3 = 3__

**Down**

1. __1 × 2 = 2__
2. __2 × 1 = 2__
3. __3 × 1 = 3__
4. __4 × 2 = 8__
5. __5 × 6 = 30__
6. __6 × 9 = 54__
7. __7 × 8 = 56__
8. __8 × 9 = 72__
9. __9 × 1 = 9__
10. __10 × 1 = 10__

Why is it important to write the numbers in straight, vertical columns when solving multiplication problems?

*Answers may vary; accept reasonable answers; sample answer: if you have to regroup, you will make fewer mistakes if the numbers are in straight, vertical columns*

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Reteach

Multiply Greater Numbers

Use what you know about multiplying 2-digit numbers to multiply 3- and 4-digit numbers.

Find $2 \times 2,739$.

**Step 1**
Multiply the ones. Regroup if necessary.

$$
\begin{array}{c}
1 \\
\times 2 \\
\hline
2,739 \\
\end{array}
$$

2 tens = 6 tens
6 tens + 1 ten = 7 tens

**Step 2**
Multiply the tens. Regroup if necessary.

$$
\begin{array}{c}
2,739 \\
\times 2 \\
\hline
5,478 \\
\end{array}
$$

2 tens = 6 tens
6 tens + 1 ten = 7 tens

**Step 3**
Multiply the hundreds. Regroup if necessary.

$$
\begin{array}{c}
2,739 \\
\times 2 \\
\hline
2,78 \\
\end{array}
$$

2 tens = 6 tens
6 tens + 1 ten = 7 tens

**Step 4**
Multiply the thousands. Regroup if necessary.

$$
\begin{array}{c}
2,739 \\
\times 2 \\
\hline
5,478 \\
\end{array}
$$

2 tens = 6 tens
6 tens + 1 ten = 7 tens

Multiply.

1. $2,52 \times 3 = 7,566$
2. $1,64 \times 4 = 6,56$
3. $3,73 \times 6 = 4,416$
4. $2,05 \times 8 = 1,640$

Solve.

27. The field trip to the art museum costs $11 per student. Mrs. King collects the money from the 6 students in her group. How much does she collect?

$66

28. Each wing of the museum has 2,500 pieces of art on display. How many pieces of art are displayed in the 4 wings of the museum?

10,000 pieces of art
Multiply.

1. $152 \times 3 = \boxed{456}$
2. $427 \times 4 = \boxed{1,708}$
3. $127 \times 5 = \boxed{635}$
4. $1,724 \times 3 = \boxed{5,172}$
5. $536 \times 2 = \boxed{1,072}$
6. $214 \times 3 = \boxed{642}$
7. $521 \times 4 = \boxed{2,084}$
8. $392 \times 6 = \boxed{2,352}$
9. $2,386 \times 6 = \boxed{14,316}$
10. $3,074 \times 7 = \boxed{21,518}$
11. $812 \times 8 = \boxed{6,496}$
12. $75 \times 7 = \boxed{525}$

Solve.

13. A round-trip plane ticket to Ft. Worth, Texas, is $267. How much would 5 tickets cost? $1,335

14. If there are 128 ounces in a gallon of milk, how many ounces are in 9 gallons? 1,152 oz

15. Mrs. Hernandez took her class on a field trip to the zoo. Admission to the zoo was $5. There were 25 students in the class. How much did it cost for the class to enter the zoo? $125

Spiral Review

Multiply. (Lesson 4-6)

16. $32 \times 5 = \boxed{160}$
17. $94 \times 3 = \boxed{282}$
18. $57 \times 8 = \boxed{456}$
19. $27 \times 6 = \boxed{162}$
20. $81 \times 4 = \boxed{324}$
21. $23 \times 4 = \boxed{92}$
You learned how to multiply multi-digit numbers. You also learned how to multiply multi-digit numbers with regrouping. Multiplying money is no different. Just remember to add the decimal point two spaces over, and don’t forget the dollar sign!

Let’s try a problem together. First, pretend it’s just a regular multiplication problem.

1. $632 \times 4 = 2,528$
   - Think: Four times two equals 8. Four times three equals 12, carry the one above the 6. Four times six equals 24 plus one makes 25.
   - Answer: 2,528
   - $600 \times 4$ equals 2,400, so my answer is reasonable.

2. $6.32 \times 4 = 25.28$
   - Think: My answer is 2,528, but slide that decimal two places over from the right. My answer is really 25.28.

3. Finally, remember that you are multiplying money. What’s missing? A dollar sign!
   - $\$6.32 \times 4 = \$25.28$
   - Think: that dollar sign is missing, and it belongs in front of my answer. $\$25.28$.

Remember, you can use a 0 right after the dollar sign as a placeholder. For example, you can write 99 cents as $0.99. They mean the same thing.

### Multiply.

1. $\$7.46 \times 4 = \$29.84$
2. $\$6.92 \times 3 = \$20.76$
3. $\$1.07 \times 5 = \$5.35$
4. $\$2.05 \times 8 = \$16.40$
5. $\$0.67 \times 2 = \$1.34$
6. $\$3.19 \times 4 = \$12.76$
7. Mrs. Pena bought frozen yogurt for Alonso and three of his friends. Each cone was $2.19. How much did Mrs. Pena spend on cones? $\$8.76$
Multiply.

1. $0.84 \times 6 = \$5.04$
2. $4.60 \times 2 = \$9.20$
3. $1.32 \times 5 = \$6.60$
4. $0.74 \times 9 = \$6.66$
5. $2.19 \times 7 = \$15.33$
6. $5.08 \times 4 = \$20.32$
7. $3.29 \times 3 = \$9.87$
8. $0.98 \times 8 = \$7.84$
9. $6.15 \times 2 = \$12.30$
10. $3.59 \times 4 = \$14.36$
11. $1.17 \times 6 = \$7.02$
12. $4.04 \times 2 = \$8.08$
13. $2.32 \times 3 = \$6.96$
14. $0.76 \times 5 = \$3.80$
15. $5.25 \times 4 = \$21.00$
16. $9.15 \times 7 = \$64.05$
17. $2.55 \times 6 = \$15.30$
18. $0.65 \times 8 = \$5.20$

Solve.

19. Mrs. Diaz bought four packs of hot dogs at $4.79 each and 3 packages of buns at $1.79 each. How much did Mrs. Diaz spend on buns and hot dogs? $24.53$

20. Erin was buying supplies for her new pet hamster. She needed two packages of bedding at $3.99 each, four bags of treats at $2.89 each, and three bags of food at $4.79 each. How much did Erin spend on her new pet? $33.91$

Use the table to answer Exercises 10-12.

| Burt’s Car Wash          | Wash only | $5.25 |
|                         | Wash and Dry | $5.75 |
|                         | Wash and Wax | $6.00 |
|                         | Wash, Wax, Dry | $6.75 |

10. If 9 cars go through Burt’s car wash and have a wash only, how much will it cost? $47.25$

11. How much will it cost for three cars to have a wash, wax, and dry? $20.25$

12. Antonio has his car washed and waxed at Burt’s every Saturday. How much does it cost him after 7 weeks? $42.00$

13. Carla ordered 6 orders of fries. They cost $1.29 a piece. How much was the total bill? $7.74$

14. Elena bought three new pairs of socks for $3.89 a pair. How much did she spend? $11.67$

Multiply. (Lesson 14-7)

15. $214 \times 7 = \underline{1,498}$
16. $1,305 \times 6 = \underline{7,830}$
17. $284 \times 8 = \underline{2,272}$
18. $346 \times 4 = \underline{1,384}$
19. $2,197 \times 5 = \underline{10,985}$
20. $3,721 \times 3 = \underline{11,163}$

Solve. (Lesson 14-8)

15. $3.53 \times 4 = \$14.12$
16. $2.75 \times 6 = \$16.50$
17. $0.99 \times 8 = \$_7.92$
18. $6.34 \times 3 = \$_19.02$
19. $4.28 \times 5 = \$_21.40$
20. $5.77 \times 2 = \$_11.54$
21. $8 \times 4.89 = \underline{39.12}$

Multiply Money

3NS3.3
Solve.

1. Lee was buying pillows for her outdoor furniture. She bought eight pillows at $19.98 each to place on the outdoor sofa, and 4 pillows at $15.99 each to scatter on the outdoor chairs. How much money did Lee spend on new pillows? $223.80

2. Cathy was eager to add books to her collection. She became interested in a series that had 6 books in a set. Each book cost $6.99. How much would the set of 6 cost Cathy? $41.94

3. Each Saturday, Trevor mows lawns. The lawns are small, so he has time to mow 7 of them. He charges $25 for each lawn. How much does Trevor earn each Saturday? $175

4. Armando’s class was selling magazine subscriptions to help buy new equipment for the science room. Armando sold 10 subscriptions at $9.99 apiece. How much did Armando contribute to the cause? $99.90

5. Ava and her family went to the baseball game. Each ticket cost $8.50. If Ava went with her mother, father, and three siblings, how much money did they spend on tickets? $51.00

6. The scout troop was selling evergreen wreaths for the holidays. Each wreath cost $29.95. If they sold 4 wreaths, how much money did the troop make? $119.80

7. The school’s marching band was getting new uniforms. Each uniform cost $25.75. How much would 10 new uniforms cost? $257.50

8. Antonio was flying back to Boston to visit his grandmother. His mom and dad were sending him with his sister. If the tickets were $389 round trip, how much would it cost for them to fly? $778

---

**Enrich**

**Family Reunion**

Read and solve the problems.

1. The Ruiz Family is having a reunion. Luis’ family has 8 family members. Luis and his family want to have matching T-shirts. The shirts are $6.95 for the adult size and $4.95 for the children’s size. The family needs 4 adult shirts and 4 children’s shirts. How much will the family spend on the shirts?

$47.60

2. Maria, Shelly, and Paul are going to buy muffins. There are 6 muffins in each package. The packages are $2.40. They think they will need 9 packages. How much will they spend on 9 packages?

$21.60

How many muffins will they have?

54 muffins

3. Marco’s family is buying balloons with the family name on them. The balloons cost $1.30 each. Marco and his family will tie 8 balloons to one end of 8 tables. How many balloons do they plan to buy?

64 balloons

How much will the balloons cost? (Hint: Break the problem into several simpler problems if necessary.)

$83.20
Vocabulary Test

Match each word to its definition. Write your answers on the lines provided.

1. multiples **C**
   A. find the product

2. estimate **D**
   B. to change the value of a number to one that is easier to work with

3. round **B**
   C. the product of a given number and any whole number

4. multiply **A**
   D. a number close to an exact value; an estimate indicates about how much

5. product **E**
   E. the answer to a multiplication problem

Oral Assessment

From the classroom, collect a pencil, an eraser, a book and a paperclip. Label them with the following prices respectively: $0.75, $0.50, $3.00 and $0.10.

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

1. How much would it cost if someone wanted to buy two erasers and 10 paperclips? **$2.00**

2. How much would it cost if someone wanted to buy 5 books? **$15.00**

3. How much would it cost if someone wanted to buy 4 books, 3 pencils, and 20 paperclips? **$16.25**

4. Tell how you got your answer. **$12.00 + $2.25 + $2.00 = $16.25**

5. How much would it cost if someone wanted to buy 10 books? **$30.00**

6. Explain your answer. **$3.00 \times 10 = $30.00**

7. David spent 20 days at camp. He hiked 1 mile each day. How many total miles did he hike at camp? **20 miles**
Name __________________________ Date __________________

Oral Assessment (continued)

8. David swam 2 hours a day. How many total hours did he swim at camp over the 20 days?

40 hours

9. David slept 8 hours every night. How many total hours did he sleep at camp over the 20 days?

160 hours

10. He ate 3 meals a day. How many total meals did he eat at camp over the 20 days?

60 meals

11. Tell how you got your answer.

20 \times 3 = 60

12. He led one activity a day. How many total activities did he lead at camp over the 20 days?

20 activities

13. He ate 2 snacks a day. How many total snacks did he eat at camp over the 20 days?

40 snacks

14. Explain your answer.

20 \times 2 = 40
### Chapter 14 Assessment Answer Key

#### Diagnostic Assessment

**Page 49**

1. $2 \times 6 = 12$
2. $4 \times 5 = 20$
3. $4 \times 3 = 12$
4. 24
5. 27
6. 50
7. 18
8. 28
9. 40
10. 8
11. 0
12. 9
13. 42
14. 14
15. 21
16. 90
17. 50
18. 80
19. 20
20. 100
21. 200
22. 200
23. 100

#### Chapter Pretest

**Page 50**

1. 7,200
2. 280
3. 9,699
4. 884
5. $654$
6. 12,649
7. **About 200**
8. **About 420**
9. **About 360**
10. **About 1,000**
11. **About 800**
12. **About 1,500**
13. **About 24,000**
14. **About 8,000**
15. **About 4,500**
16. **About 5,600**

#### Quiz 1 (14–1 through 14–3)

**Page 51**

1. **B**
2. **H**
3. **C**
4. **H**
5. **C**
6. **G**
7. olive and onion
8. third

---

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# Chapter 14 Assessment Answer Key

**Quiz 2** (14–4 through 14–6)
Page 52

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>C</td>
</tr>
<tr>
<td>2.</td>
<td>H</td>
</tr>
<tr>
<td>3.</td>
<td>A</td>
</tr>
<tr>
<td>4.</td>
<td>H</td>
</tr>
<tr>
<td>5.</td>
<td>C</td>
</tr>
<tr>
<td>6.</td>
<td>J</td>
</tr>
<tr>
<td>7.</td>
<td>6 desks</td>
</tr>
<tr>
<td>8.</td>
<td>7 kinds: h, t, c; h&amp;t, h&amp;c, t&amp;c, and h, t, &amp; c.</td>
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**Quiz 3** (14–7 through 14–8)
Page 53

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1.</td>
<td>A</td>
</tr>
<tr>
<td>2.</td>
<td>H</td>
</tr>
<tr>
<td>3.</td>
<td>C</td>
</tr>
<tr>
<td>4.</td>
<td>G</td>
</tr>
<tr>
<td>5.</td>
<td>C</td>
</tr>
<tr>
<td>6.</td>
<td>G</td>
</tr>
<tr>
<td>7.</td>
<td>$31.92</td>
</tr>
<tr>
<td>8.</td>
<td>$17.43</td>
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**Mid-Chapter Review**
Page 54

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1.</td>
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<tr>
<td>2.</td>
<td>H</td>
</tr>
<tr>
<td>3.</td>
<td>D</td>
</tr>
<tr>
<td>4.</td>
<td>H</td>
</tr>
<tr>
<td>5.</td>
<td>October</td>
</tr>
<tr>
<td>6.</td>
<td>lemonade</td>
</tr>
<tr>
<td>7.</td>
<td>3 packs</td>
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# Chapter 14 Assessment Answer Key

## Chapter Test, Form 1

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<thead>
<tr>
<th>Page 60</th>
<th>1. ( B )</th>
<th>9. ( D )</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>2. ( J )</td>
<td>10. ( G )</td>
</tr>
<tr>
<td></td>
<td>3. ( C )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. ( F )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. ( A )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. ( H )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11. ( A )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12. ( J )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. ( B )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8. ( F )</td>
<td></td>
</tr>
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</table>

## Chapter Test, Form 1

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<th>9. ( D )</th>
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<td>10. ( G )</td>
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<tr>
<td></td>
<td>3. ( B )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4. ( F )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5. ( A )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6. ( H )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11. ( A )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12. ( J )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7. ( B )</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8. ( F )</td>
<td></td>
</tr>
</tbody>
</table>

(continued on the next page)
Chapter 14 Assessment Answer Key

Chapter Test, Form 2A
Page 63

9. A

10. H

11. A

12. J

Chapter Test, Form 2B
Page 64

1. C

2. H

3. B

4. F

5. A

6. H

7. B

8. F

9. A

10. H

11. A

12. G
Chapter 14 Assessment Answer Key

Chapter Test, Form 2C
Page 66

1. 2,350
2. 60,579
3. 42,000
4. $16.28
5. 4,180
6. $4.08
7. 8,198
8. 2,100
9. 228
10. 42,918
11. >
12. =
13. 4,900
14. 2,500
15. 2,400
16. 600

Chapter Test, Form 2D
Page 67

17. Maria, Rob, Jack, Ann

18. 448

Page 68

1. 2,160
2. 48,391
3. 36,000
4. $14.91
5. 3,190
6. $14.92
7. 17,970
8. 1,800
9. 272
10. 8,244
11. =
12. >
13. 3,200
14. 3,600
15. 4,000
16. 300

(continued on the next page)
Chapter 14 Assessment Answer Key

17. Alex, Kim, Luis
18. 216 hours
19. $38.86
20. 3 children’s tickets

Chapter Test, Form 2D
Page 69

Chapter Test, Form 3
Page 70

1. 3,942
2. 44,811
3. 32,000
4. $36.36
5. 4,740
6. $22.11
7. 18,176
8. 4,800
9. 2,298
10. 4,689,258
11. >
12. =
13. 6,300
14. 5,600
15. 230,400
16. 7,000
18. 3,600 seconds
19. $26.73
20. 3 adult tickets

Chapter 14

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<table>
<thead>
<tr>
<th>Level</th>
<th>Specific Criteria</th>
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</thead>
<tbody>
<tr>
<td>4</td>
<td>The student demonstrates a <em>thorough understanding</em> 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 <em>understanding</em> 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 <em>partial understanding</em> of the mathematics concepts and/or procedures embodied in the task. Although the student may have used the correct approach to obtaining a solution or may have provided a correct solution, the student’s work lacks an essential understanding of the underlying mathematical concepts. The response contains errors related to misunderstanding important aspects of the task, misuse of mathematical procedures, or faulty interpretations of results.</td>
</tr>
<tr>
<td>1</td>
<td>The student has demonstrated a <em>very limited understanding</em> 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 <em>completely incorrect</em> solution or uninterpretable response, or no response at all.</td>
</tr>
</tbody>
</table>

(continued on the next page)
Chapter 14 Assessment Answer Key

Page 72, Extended-Response Test
Sample Answers

In addition to the scoring rubric found on page A30, the following sample answers may be used as guidance in evaluating open-ended assessment items.

1. a. To estimate by rounding, you use the rounding rules. $2.59 rounds to $3.00. If you multiply $9 \times 3.00$, the candles will cost about $27.00. Since you only have $25.00, you won’t have enough to buy the candles.

   b. To find $2.59 \times 9$:

   **Step 1:** Multiply ones. $9 \times 9$ ones = 81 ones. Regroup as 8 tens and 1 ones.

   
   $\begin{array}{ccc}
   \text{8} & & \\
   \text{2.59} & \times & \text{9} \\
   \text{1} & & \\
   \hline
   \text{0.31} & & \text{23.31}
   \end{array}$

   **Step 2:** Multiply tens. $9 \times 5$ tens = 45 tens. Add the 8 regrouped tens. Regroup as needed.

   **Step 3:** Multiply hundreds. $9 \times 2$ hundreds = 18 hundreds. Add the 5 hundreds.

   The answer is $23.31$. Since you have $25.00, you will have enough to buy the candles.

2. a. Find out how much money Katie makes per month babysitting each family’s children by multiplying the pay per hour by the hours per month she babysits. Stein: $5.50 \times 4 = $22.00. Collins: $7.50 \times 2 = $15.00. Gilmore: $6.75 \times 3 = $20.25. Then add the amounts: $22.00 + $15.00 + $20.25 = $57.25.

   b. Katie makes more money babysitting the Gilmore kids. Using estimation by rounding, Katie makes about $16 per month babysitting the Collins kids. She makes about $21 per month babysitting the Gilmore kids.
Chapter 14 Assessment Answer Key

Cumulative Standardized Test Practice
Page 74

1. _____ C

2. _____ J

3. _____ A

Cumulative Standardized Test Practice
Page 75

4. _____ G

5. _____ B

6. _____ H

7. _____ B

8. _____ F

9. _____ C

10. _____ J

Cumulative Standardized Test Practice
Page 76

11. _____ 3,500

12. _____ 120

13. _____ 8,466

14. About 140

15. About $50

16. About 810

17. About 7,900

18. About $5,600

19. About $1,800

20. About 4,000