

# 1

## NUMBER SYSTEMS

What is math all about?

## CHAPTER 1

### CHAPTER OBJECTIVES

- Express whole numbers and decimals in standard, word, fraction, and exponent form.
- Synthesize new information with prior knowledge of place value concepts.
- Solve addition and subtraction problems with integers and decimals.
- Solve problems using addition and subtraction properties.
- Use number patterns to solve problems.
- Explain what math is all about.

To determine whether your students are prepared for the concepts taught in this chapter, you may wish to consult the preassessment checklist found on [TeacherToolsOnline.com](http://TeacherToolsOnline.com).

Math facts are practiced through Fact Reviews (found on [TeacherToolsOnline.com](http://TeacherToolsOnline.com)). You may also use technology or standard flashcards to review math facts with the students. Make fact practice, both oral and written, part of your daily math routine to help the students with mastery.

Visit [AfterSchoolHelp.com](http://AfterSchoolHelp.com) for math practice resources, or visit [TeacherToolsOnline.com](http://TeacherToolsOnline.com) for additional resources to enhance the lessons.

Visuals and manipulatives aid in the understanding of math concepts. In preparation for this course, you may choose to review math concepts taught throughout *MATH 6* by accessing virtual manipulatives online. An internet search will provide you with a variety of manipulatives to use for review.

# LESSON

# 1

Student Edition pages 1–3  
Daily Review Chapter 1, section a

## OBJECTIVES

- Explain how the place value system shows that math is a human activity. **BWS**
- Identify the value of each digit in a number.
- Express numbers in standard form, word form, expanded form, and expanded form with multiplication.
- Compare numbers using  $>$ ,  $<$ , or  $=$ .
- Round numbers to the place of the greatest value or to a given place.

## BIBLICAL WORLDVIEW SHAPING

- Knowledge (Explain): The development of the place value system demonstrates that math is a human activity.

## ADDITIONAL MATERIALS

- Bible

## Notes

Throughout *MATH 6*, use the information given on the Student Edition pages to review the concepts taught in the lesson and allow the students to complete a few practice problems with you, if needed, before they complete problems independently. Ample practice problems are provided in the Exercises and Practice & Application sections. You may choose to assign representative problems from each section and adjust the number of problems to meet the needs of your students.

**Essential questions** are intended to stimulate thought, encourage inquiry, and promote discussion. A biblical worldview essential question is posed on the opening page of each chapter. Students will be able to answer it by the end of the chapter.

An essential question related to lesson content is often presented near the beginning of each lesson and answered toward the end of the lesson.

## Whole Number Place Value

How does the place value system show that math is a human activity?

The value of a digit depends on its place within the number. A comma is used to separate the place value periods and makes the number easier to read.

H	T	O	H	T	O	H	T	O	H	T	O
Billions			Millions			Thousands			Ones		
4	7	3	6	0	1	0	8	2	5	9	3

<b>Standard form</b>	473,601,082,593
<b>Word form</b>	four hundred seventy-three billion, six hundred one million, eighty-two thousand, five hundred ninety-three
<b>Expanded form</b>	$400,000,000,000 + 70,000,000,000 + 3,000,000,000 + 600,000,000 + 1,000,000 + 80,000 + 2,000 + 500 + 90 + 3$
<b>Expanded form with multiplication</b>	$(4 \times 100,000,000,000) + (7 \times 10,000,000,000) + (3 \times 1,000,000,000) + (6 \times 100,000,000) + (1 \times 1,000,000) + (8 \times 10,000) + (2 \times 1,000) + (5 \times 100) + (9 \times 10) + (3 \times 1)$

### Strategies for Comparing and Ordering Numbers

Compare the number of periods.

$$2,126,826 > 216,924$$

Millions Period	>	Thousands Period
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Compare the places in a period.

$$75,541 < 675,809$$

Ten Thousands	<	Hundred Thousands
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Compare the digits in a place.

$$15,893 < 15,938$$

8 Hundreds	<	9 Hundreds
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1. *four hundred twenty-one million, sixty-three thousand, nine hundred eighty-seven*;  $400,000,000 + 20,000,000 + 1,000,000 + 60,000 + 3,000 + 900 + 80 + 7$

## Exercises

Write the number in word form and expanded form.

1. 421,063,987

2. 673,911

3. 200,037,402,586

Use the numbers in problems 1–3 to find the answer.

4. Name the greatest place of each number.

5. In which numbers does the 3 have a value of 3,000? **421,063,987 and 673,911**

6. Write the number with the least value in expanded form with multiplication.

Write the number in standard form.

7. 30 billions, 407 millions, 17 thousands, 603 ones  
**30,407,017,603**

8. forty-five million, two hundred twenty thousand, three hundred seven **45,220,307**

9.  $300,000,000,000 + 40,000,000,000 + 6,000,000,000 + 50,000,000 + 9,000,000 + 60,000 + 8,000 + 700 + 4$   
**346,059,068,704**

Write a comparison sentence by using  $>$ ,  $<$ , or  $=$ .

10.  $14,625,902 \geq 5,986,597$

11.  $125,008 \leq 125,080$

12. 893 million  $\leq$  2 billion

13.  $998,651,083 \approx 900,000,000 + 90,000,000 + 8,000,000 + 600,000 + 50,000 + 1,000 + 80 + 3$

2 Chapter 1

### Key Terms

- place value
- place value period
- standard form
- word form
- expanded form
- compare numbers
- round numbers

## Engage

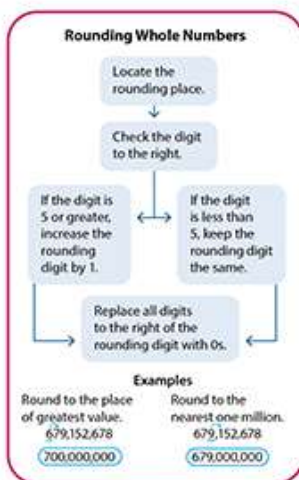
- Direct the students to do a **Think-Pair-Share** to explore the chapter essential question on Student Edition page 1, "What is math all about?"
- Explain that our English word *mathematics* comes from a Greek word *mathema* that means "knowledge" or "learning." Explain that math is a human activity that is useful for learning about and describing the order and patterns we see in God's world by using numbers and other symbols.  
Read aloud Proverbs 1:7a:  
**What must guide all human knowledge? the fear of the Lord**

Challenge the students to think beyond merely the symbols and equations of math this year to explore how math fits into the world when viewed from a biblical perspective.

## Instruct

### Math as a human activity

- Guide a **discussion** to help the students understand how math is a human activity, using the essential question at the top of Student Edition page 2, "How does the place value system show that math is a human activity?"  
Point out that place value in math was first used by ancient Babylonians sometime between 2000 and 1000 BC.



Write the answer, using 568,932,475,018.

14. Round to the nearest ten million.  
*568,930,000,000*
15. The value of each 5 in standard form  
*500,000,000,000; 5,000*
16. Round to the nearest one billion.  
*569,000,000,000*
17. The value of the 9 in standard form  
*900,000,000*
18. Round to the nearest hundred thousand.  
*568,932,500,000*
19. The digit in the ten thousands place *7*
20. 568,932,000,000 is rounded to the nearest *one million*
21. The greatest place *hundred billion*

Write the numbers from least to greatest.

22. 26,583    2,658    26,853    23,598  
*2,658    23,598    26,583    26,853*
23. 703,567    703,765    703,675    703,766  
*703,567    703,675    703,765    703,766*

### Practice & Application

24. Write the number that is 1,000 more than 298,370. *299,370*
  25. Write the number that is 1,000 less than 6,581,257. *6,580,257*
  26. Write the standard form for  $80,000,000 + 2,000,000 + 600,000 + 90,000 + 3,000 + 10$ .  
*82,693,010*
  27. Write 37,596,042 in word form.
  28. Which two ten thousands is 81,960 between?  
*80,000 and 90,000*
  29. Round 351,798,200 to the greatest place.  
*400,000,000*
  30. Rearrange the digits in 21,034,065 to make the largest number possible. (Use all digits.)  
*65,432,700*
  31. Rearrange the digits in 21,034,065 to make the smallest number possible. (Use all digits.)  
*10,023,456*
  32. Explain how adding commas to 17398052 helps you read the number.
  33. How does the place value system show that math is a human activity?  
*The place value system has not always existed. It was developed by man.*
2. *six hundred seventy-three thousand, nine hundred eleven;  $600,000 + 70,000 + 3,000 + 900 + 10 + 1$*
3. *two hundred billion, thirty-seven million, four hundred two thousand, five hundred eighty-six;  $200,000,000,000 + 30,000,000 + 7,000,000 + 400,000 + 2,000 + 500 + 80 + 6$*
4. *hundred million; hundred thousand; hundred billion*
6.  *$673,911 = (6 \times 100,000) + (7 \times 10,000) + (3 \times 1,000) + (9 \times 100) + (1 \times 10) + (1 \times 1)$*
27. *thirty-seven million, five hundred ninety-six thousand, forty-two*
32. *17,398,052; The commas separate the periods. This makes the number easier to read as hundreds, tens, and ones of each period.*

Lesson 1 3

How does the place value system show that math is a human activity? *The place value system has not always existed. It was developed by man.*

### Value of the digits in a number

- Guide a discussion about our base 10 number system to help the students understand the value of digits. Point out that numbers are formed using 10 digits (0–9), and place values are based on powers of 10. Each place has a value that is 10 times greater than the place to its right and  $\frac{1}{10}$  of the value of the place to its left.
- Direct attention to the place value chart at the top of Student Edition page 2.

Point out that commas separate the periods.  
What periods are shown on this place value chart? *billions, millions, thousands, ones*  
What pattern of places is in each period? *hundreds, tens, ones*

- Write a 9-digit number with a 7 in the tens place of the number.  
Example: 348,912,670  
What is the value of the 7? *70*  
Change the number so that the 7 is in the hundreds place.  
What is the value of the 7 now? *700*

## LESSON

# 1

How much greater is the value of 7 when it is in the hundreds place than when it is in the tens place? *10 times greater*

Change the number so that the 7 is in the ones place.

What is the value of the 7 now? *7*

What part of the value of 7 in the tens place is the value of 7 when it is in the ones place?  *$\frac{1}{10}$ ; 7 is  $\frac{1}{10}$  of 70.*

- Repeat the procedure using 3 different adjacent places. Emphasize that each place has a value 10 times greater than the place to its right and a value  $\frac{1}{10}$  of the place to its left.

- Write a 12-digit whole number for display. Example: 257,894,236,176

What period is to the left of the millions period? *billions*

- Choose a student to read the 12-digit number aloud. Remind the students that you say the period name at the end of each period, except for the ones period, and that you do not use the word *and* between places or periods.

How can you change this number so that there is 1,000 more? *I can change the digit in the one thousands place to the next greater digit.*

If the digit is 9, you will need to rename 10 one thousands as 1 ten thousand and 0 one thousands.

- Choose a student to change the 12-digit number and to read aloud the new number. Invite another student to add 100,000 to the original number and to read aloud the new number. Follow a similar procedure to add 1 to or subtract 1 from various places in the original number.

### Numbers expressed in different forms

- Guide a discussion to activate prior knowledge to help students express numbers in different forms. Write "503,017,246" for display and choose a student to read the number aloud. Remind the students that standard form is the most common form

used to write a number, but numbers can also be written in other forms. The word form is written with words; the period name is written at the end of each period followed by a comma, except for the ones period.

How could you write the value of the millions period in word form? **five hundred three million**

How could you write the value of the thousands period in word form? **seventeen thousand**

How could you write the value of the ones period in word form? **two hundred forty-six**

Write the word form of the number for display.

- Explain that writing a number in expanded form is a way to decompose, or break down, a number to show the value of each digit. Choose a student to give the expanded form for 503,017,246.  
 $500,000,000 + 3,000,000 + 10,000 + 7,000 + 200 + 40 + 6$

(Note: 0 may be written as a placeholder.)

Explain that 503,017,246 can also be written in expanded form using multiplication. The value of each place is multiplied by the corresponding digit.

What mathematical phrase can you write for the value of 5 in the hundred millions place? ( $5 \times 100,000,000$ )

Write the phrase for display and invite students to give the phrase for the value of each digit in the remaining places.

$$+ (3 \times 1,000,000) + (1 \times 10,000) + (7 \times 1,000) + (2 \times 100) + (4 \times 10) + (6 \times 1)$$

- Instruct the students to write the following numbers in all four forms.  
34,056,230,800  
9,720,480,056  
34,500,872

### Comparing numbers

- Guide a discussion to activate prior knowledge of comparing numbers.  
How can you compare whole numbers that have differing numbers of digits?  
**The number with more digits is greater.**  
How can you compare whole numbers that have the same number of digits? I can begin with the place of greatest value

Add or subtract.

$$\begin{array}{r} 1. \quad 3 \\ \quad 7 \\ + 8 \\ \hline 18 \end{array}$$

$$\begin{array}{r} 2. \quad 3 \\ \quad 3 \\ + 3 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 3. \quad 2 \\ \quad 8 \\ + 3 \\ \hline 13 \end{array}$$

$$\begin{array}{r} 4. \quad 9 \\ \quad 1 \\ + 7 \\ \hline 17 \end{array}$$

$$\begin{array}{r} 5. \quad 20 \\ \quad - 8 \\ \hline 12 \end{array}$$

$$\begin{array}{r} 6. \quad 39 \\ \quad - 10 \\ \hline 29 \end{array}$$

$$\begin{array}{r} 7. \quad 45 \\ \quad - 9 \\ \hline 36 \end{array}$$

$$\begin{array}{r} 8. \quad 80 \\ \quad - 9 \\ \hline 71 \end{array}$$

$$\begin{array}{r} 9. \quad 100 \\ \quad - 45 \\ \hline 55 \end{array}$$

$$\begin{array}{r} 10. \quad 732 \\ \quad + 149 \\ \hline 881 \end{array}$$

$$\begin{array}{r} 11. \quad 4,200 \\ \quad - 1,341 \\ \hline 2,859 \end{array}$$

$$\begin{array}{r} 12. \quad 9,851 \\ \quad - 3,480 \\ \hline 6,371 \end{array}$$

13.  $8 + \underline{\quad} = 15$  **7**

14.  $7 + \underline{\quad} = 13$  **6**

15.  $3 + \underline{\quad} = 12$  **9**

16.  $30 - \underline{\quad} = 25$  **5**

17.  $35 - \underline{\quad} = 20$  **15**

18.  $30 - \underline{\quad} = 22$  **8**

19.  $7 + 8 - 5 + 6 = \underline{\quad}$  **16**

20.  $9 + 3 - 0 + 4 = \underline{\quad}$  **16**



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and compare the digits in each place until the digits in a place have different values; the digit with the greater value indicates the greater number.

- Guide the students in completing the following number sentences; use strategies such as rewriting a number in standard form or comparing corresponding places when the number is written in word form or expanded form.  
 $84,769,320 > 84,768,320$   
 $103,278,600 > 99,846,759$   
 $20,040,570 < 20,000,000 + 400,000 + 500 + 70$   
twelve billion, fifty-three million, twenty-nine  $>$  12,053,029

- Write " $a < b$ " for display. Explain that the variables  $a$  and  $b$  represent 2 values to be compared. Assign the following values to  $a$  and  $b$  and guide the students in comparing them. Choose students to explain the answers.

$a$  is a 7-digit whole number;  $b$  is a 9-digit whole number.  $a < b$ ; One millions are less than hundred millions.

$a = 367,000,000$ ;  $b = 365,000,000$   $a > b$

$a = 2,000,000 + 6,000$ ;  $b = 2,000,000 + 60,000$   $a < b$

## Rounding numbers

- **Model** rounding numbers to help students understand this skill.  
Write "354,829" for display. Explain that you want the students to round 354,829 to the place of greatest value. Choose a student to underline the digit in the place of greatest value. **3**  
Which hundred thousands is 354,829 between? **300,000 and 400,000**  
Write the two rounding possibilities above and below 354,829.  
Draw a number line with a mark close to each end and at the halfway point. Label the left mark 300,000 and the right mark 400,000.  
What number is halfway between 300,000 and 400,000? **350,000; 50,000 is half of 100,000, so 350,000 is halfway between 300,000 and 400,000.**  
Label the halfway point 350,000. Choose a student to draw and label a point at the approximate location of 354,829.  
Which hundred thousand does 354,829 round to? **400,000;  $354,829 > 350,000$**
- Follow a similar procedure to round the following numbers to the given place.  
354,829 rounded to the nearest ten thousand **between 350,000 and 360,000; rounds to 350,000**

1,465,309 rounded to the nearest one thousand **between 1,465,000 and 1,466,000; rounds to 1,465,000**  
378,720,526,482 rounded to the nearest ten billion **between 370,000,000,000 and 380,000,000,000; rounds to 380,000,000,000**  
How does the value of the digit to the right of the rounding place help you to round a number? **If the digit to the right of the rounding place is 5 or more, I round up; if the digit is less than 5, I round down.**

## Apply

### Student Edition pages 2–3

The Student Edition is nonconsumable and is not designed to be written in. Students should copy and complete problems on their own paper.  
The Student Edition pages are designed for practicing new concepts as well as reviewing previous skills. They are intended to be checked for accuracy but not graded. See Grading Math (TeacherToolsOnline.com) for ideas.

- Read and explain the directions for pages 2–3. Assist the students as they complete the pages independently.

## LESSON

# 1

### Daily Review

- Students should complete Chapter 1, section *a*.

The exercises in the Daily Review section (pp. 389–521) of the Student Edition provide a systematic review of skills and concepts taught or practiced in fifth grade or in an earlier chapter of sixth grade. The Daily Review assignment listed at the beginning of the lesson does not need to be included as part of the scheduled lesson and may be completed at any time.

A Daily Review page with answer overprint is shown on the third page of most Teacher Edition lessons.

## NOTES


## LESSON

# 2

Student Edition pages 4–5  
Daily Review Chapter 1, section b

### OBJECTIVES

- Apply addition strategies to mental math.
- Add whole numbers to the hundred millions place.
- Estimate the sum by rounding or using front-end estimation.
- Solve an addition word problem.

### Engage

- Direct attention to the essential question at the top of Student Edition page 4, "How do I know whether my answer is reasonable?"

Direct the students to **brainstorm** to explore the essential question.

You may use the following prompts to guide their thinking.

When you are shopping, do you think about what the total amount should be before you are ready to pay?

Do you ever worry that you are being charged too much for your purchases? Allow time for students to share their ideas.

### Instruct

#### Strategies for mental math

- Use the strategy "make 10 or 100" to add mentally.  
Write "3 + 7 = 10" and "7 + 3 = 10" for display.  
What other addition facts do you know that equal 10? 0 + 10; 10 + 0; 1 + 9; 9 + 1; 2 + 8; 8 + 2; 4 + 6; 6 + 4; 5 + 5  
Write "23 + 7 = \_\_\_" and "3 + 47 = \_\_\_" for display. Choose students to complete the equations, using mental math, and to explain how they calculated the answers. 30; 50 Remind the students that using addition facts to make tens can help them to easily add mentally.  
Write "23 + 84 = \_\_\_" and "56 + 57 = \_\_\_" for display.

## Adding Whole Numbers

How do I know whether my answer is reasonable?

**Addition** is used to find the total of two or more numbers or sets. The numbers or sets being added together are the **addends**. The total of the addends is the **sum**. To add, begin in the place with least value and continue to the place with greatest value, renaming as necessary.

$$\begin{array}{r} \phantom{1} \phantom{1} \\ 3,154 \\ + \phantom{0} 861 \\ \hline 4,015 \end{array} \qquad \begin{array}{r} \phantom{1} \phantom{1} \\ 159,043 \\ + 2,345,826 \\ \hline 2,504,869 \end{array}$$

An **estimate** is an approximate answer. An estimate can be used to check the accuracy of a solved problem. Estimates may be written, but the goal is to use mental math to find estimates.

To find an approximate sum, we can use **rounding** or **front-end estimation**. Sometimes a number may be rounded to a place other than the greatest place to give an approximate amount.

#### Key Terms

- addition
- addend
- sum
- estimate
- rounding
- front-end estimation



#### Rounding Whole Numbers

**Rounding to the Greatest Place**  
Round each number to the place of greatest value.

Estimate	$\begin{array}{r} \phantom{1} \phantom{1} \\ 4,000 \\ + \phantom{0} 700 \\ \hline 4,700 \end{array}$	$\begin{array}{r} \phantom{1} \phantom{1} \\ 4,178 \\ + \phantom{0} 682 \\ \hline 4,860 \end{array}$
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**Using Front-end Estimation**  
Add the digits in the two greatest places for a more accurate estimate.

Estimate	$\begin{array}{r} \phantom{1} \\ 15,000 \\ + 26,000 \\ \hline 41,000 \end{array}$	$\begin{array}{r} \phantom{1} \\ 15,678 \\ + 26,311 \\ \hline 41,989 \end{array}$
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**Rounding to a Given Place**

The Jones Hardware Store inventory list accounts for **617,603** nails. Mr. Jones rounds to the nearest one thousand and tells a customer he has about **618,000** nails in his store.

### Exercises

Round each addend to the greatest place to estimate the sum.

- 18,209 + 27,652      2. 143,688 + 81,704      3. 587,169 + 253,482      4. 3,945,100 + 1,069,388

$$\begin{array}{l} 50,000 \qquad 180,000 \qquad 900,000 \qquad 5,000,000 \end{array}$$

Use front-end estimation to estimate the sum.

- 36,249 + 32,155      6. 149,652 + 286,927      7. 48,015 + 39,866      8. 19,735 + 3,487

$$\begin{array}{l} 73,000 \qquad 420,000 \qquad 87,000 \qquad 22,000 \end{array}$$

How does knowing the "ten" facts help you solve problems like these mentally?  
sample answer: I can easily add the tens to make 10 tens or 100 and then add the sum of the ones to 100.

Invite students to complete the equations and explain how they calculated the answers mentally. think 2 tens + 8 tens = 100; 100 + (3 + 4) = 107; think 5 tens + 5 tens = 100; 100 + (6 + 7) = 113

- Use the strategy "add left to right" to add mentally.

Explain that when adding mentally it is often easier to add from left to right, adding the value of each place and making adjustments for any renaming. Guide the

students in mentally solving the following problems from left to right.

$$4,276 + 372 = \underline{\quad} \text{ think } 4,000 + (200 + 300) = 4,500; 4,500 + (70 + 70) = 4,640; 4,640 + (6 + 2) = 4,648$$

$$790,234 + 4,823 + 587 = \underline{\quad} \text{ think } 790,000 + 4,000 = 794,000; 794,000 + (200 + 800 + 500) = 795,500; 795,500 + (30 + 20 + 80) = 795,630; 795,630 + (4 + 3 + 7) = 795,644$$

- Use the strategy "compensation" to add mentally.

Point out that compensation, subtracting an amount from one addend and adding the same amount to another addend to make the other addend a ten, can help in

# LESSON 2

Add.

$$\begin{array}{r} 9. \quad 139,728 \\ 403,680 \\ + 391,499 \\ \hline 934,907 \end{array}$$

$$\begin{array}{r} 10. \quad 1,397,240 \\ 600,817 \\ + 129,007 \\ \hline 2,127,064 \end{array}$$

$$\begin{array}{r} 11. \quad 14,659 \\ 72,019 \\ + 53,832 \\ \hline 140,510 \end{array}$$

$$\begin{array}{r} 12. \quad 900,000,000 \\ 17,580,013 \\ + 395,602 \\ \hline 917,975,615 \end{array}$$

$$13. \quad 15,642 + 1,389,420 \\ 1,405,062$$

$$14. \quad 400,607 + 3,589 \\ 404,196$$

$$15. \quad 136 + 49 + 210 + 108 \\ 503$$

Use the map to find the answer.

16. Mr. Johnson flew from his hometown of Los Angeles on a business trip. He flew to Chicago and then from Chicago to New York City. What was the total distance of his flights?

$$2,054 + 802 = 2,856 \text{ mi}$$

17. Mr. Brown met Mr. Johnson in New York City. How far did Mr. Brown fly if he flew from Seattle to Chicago and then from Chicago to New York City?

$$2,013 + 802 = 2,815 \text{ mi}$$

18. Round to the greatest place to estimate the number of miles flown by Mr. Johnson and Mr. Brown.

$$3,000 + 3,000 = 6,000 \text{ mi}$$

19. Find the number of miles Mr. Johnson flew while making a round trip (flying to the meeting and then flying home). Use problem 16 to solve.

$$2,856 + 2,856 = 5,712 \text{ mi}$$



$$22. \quad 10,000,000,000 + 8,000,000,000 + 300,000,000 + 90,000,000 + 6,000,000 + 400,000 + 70,000 + 500 + 2$$

## Practice & Application

20. Add commas to 20043170.  
20,043,170

21. Write the name of the greatest place in the number for problem 20. *ten millions place*

22. Write 18,396,470,502 in expanded form.

23. Write six hundred forty-nine thousand, five hundred seventeen in standard form. *649,517*

24. Write the value of the 9 in 19,325,644 in word form. *nine million*

25. Write two facts with a sum of 12, using different addends for each fact. *Answers may vary. 5 + 7 = 12; 8 + 4 = 12*

26. Find the sum of 94, 87, 57, and 19. *257*

27. Find the sum of 903,871 and 89,532. *993,403*

28. Write the number that is 1,000 more than 329,990. *330,990*

29. Write 2,291,620; 2,291,206; 2,921,260; and 2,291,026 from greatest to least. *2,921,260; 2,291,620; 2,291,206; 2,291,026*

30. Round 1,398,750 to the nearest hundred thousand. *1,400,000*

31. Write the next 8 numbers for the count-by-6 pattern: 6, 12, 18, 24. *30, 36, 42, 48, 54, 60, 66, 72*

32. Use the following methods to estimate the sum of 158,341 and 211,977.  $200,000 + 200,000 =$   
a. rounding to the greatest place *400,000*  
b. using front-end estimation  $150,000 + 210,000 = 360,000$

33. Explain why using front-end estimation for the addends 158,341 and 211,977 gives a more accurate estimate than rounding to the greatest place. Find the sum.

34. How do I know whether my answer is reasonable? *I can use estimation to find an approximate answer to determine whether my exact answer is reasonable.*

35. Rounding to the place of greatest value gives an overestimate of about 30,000. Front-end estimation gives an underestimate of about 10,000.  $158,341 + 211,977 = 370,318$

Lesson 2 5

adding more quickly. Guide the students in using compensation to mentally solve the following problems.

$$45 + 13,005 = \underline{\quad} \text{ think } (45 + 5) + (13,005 - 5) = 50 + 13,000 = 13,050$$

$$634 + 76 = \underline{\quad} \text{ think } (634 - 4) + (76 + 4) = 630 + 80 = 710 \text{ or } (634 + 6) + (76 - 6) = 640 + 70 = 710$$

• Direct the students to choose any strategy to solve the following equations using mental math. Point out that there is not a right or wrong strategy.

$$9,034 + 72 = \underline{\quad} \text{ 9,106}$$

$$851 + 249 = \underline{\quad} \text{ 1,100}$$

$$376,000 + 19 + 4,001 = \underline{\quad} \text{ 380,020}$$

## Estimating sums

• Guide the students to **round** to estimate sums.

Read aloud the following word problem.

During a 2-day karate tournament, 1,465 tickets were sold on the first day and 2,780 tickets were sold on the second day. How many tickets were sold for the tournament? *4,245 tickets*

What equation can you write to solve this word problem?  $1,465 + 2,780 = \underline{\quad}$   
Write " $1,465 + 2,780 = t$ " for display. Remind the students that the variable  $t$  represents the unknown number of tickets that were sold. Point out that any letter can be used as a variable.

Whenever a variable has been used in a lesson, encourage the students to use a variable when writing an equation to solve other word problems.

How could you estimate the number of tickets sold for the tournament? *I could round the addends to the place of greatest value, the nearest one thousand.*

Approximately how many tickets were sold? *4,000; 1,465 rounds down to 1,000 and 2,780 rounds up to 3,000, resulting in an estimated sum of 4,000.*

• Explain that when both addends are rounded up, the estimate will be greater than the exact answer, and when both addends are rounded down, the estimate will be less than the exact answer. For this estimate, the first addend was rounded down by 400–500, and the second addend was rounded up by 200–300. Since the first addend was rounded down approximately 200 more than the second addend was rounded up, the exact answer should be approximately 200 more than the estimated answer.

What is the adjusted estimate? *4,200*

• Explain that an adjusted, or closer, estimate can also be found by rounding to a lesser place. Guide the students in estimating the number of tickets sold by rounding to the nearest hundred. *4,300*  
Will the actual answer be greater than or less than this estimate? *less; We rounded up both addends.*

Write " $1,465 + 2,780 = \underline{\quad}$ " in vertical form. Guide the students as they add the places. Emphasize the renaming of the tens and hundreds.

How many tickets were sold for the tournament? *4,245 tickets*

Is this answer reasonable? *yes*

• Write the following problems for display. Direct the students to estimate the sums before solving.

$\begin{array}{r} 1,208 \\ + 964 \\ \hline 2,172 \\ (2,000) \end{array}$	$\begin{array}{r} 3,047 \\ + 1,275 \\ \hline 4,322 \\ (4,000) \end{array}$	$\begin{array}{r} 723 \\ 1,649 \\ + 2,378 \\ \hline 4,750 \\ (4,700) \end{array}$
--	--	---

# LESSON 2

- Explain that another way to estimate is front-end estimation. As the name implies, the values in the greatest place are added. Closer estimates can be made by adding the values in the first two greatest places.

Guide the students to find two estimates for each of the following sums using front-end estimation and then solve.

3,874	4,075	321
+ 529	+ 3,786	2,167
4,403	7,861	+ 4,950
(3,000; 4,300)	(7,000; 7,700)	7,438 (6,000; 7,300)

## Solving a word problem

- Guide a discussion to solve the following word problem.

For a circus at the city arena, 9,345 tickets were sold for the Friday performance, and 23,560 tickets were sold for the two performances on Saturday. What was the total number of tickets sold for Friday and Saturday? **32,905 tickets**

What equation can you write to solve this word problem?  $9,345 + 23,560 = t$  or  $23,560 + 9,345 = t$

Write both equations for display.

Rounding to the place of greatest value, approximately how many tickets were sold?  $29,000$ ;  $9,000 + 20,000 = 29,000$

Rounding to the nearest one thousand, approximately how many tickets were sold?  $33,000$ ;  $9,000 + 24,000 = 33,000$

Write the problem vertically. Review renaming as you demonstrate solving the problem. **32,905 tickets**

How do I know whether my answer is reasonable? I can use estimation to find an approximate answer to determine whether my exact answer is reasonable. Is 32,905 tickets a reasonable answer? The sum is reasonable because it is within a few thousand of the estimate and even closer to the adjusted estimate.

- Remind the students that addition and subtraction are inverse operations. Addition is the mathematical process of combining parts to make a total, or whole, and subtraction is the mathematical process of separating the total into parts.

## 1-B

Solve.

$$\begin{array}{r} 1. \quad 23 \\ \quad 47 \\ \quad +15 \\ \hline \quad 85 \end{array}$$

$$\begin{array}{r} 2. \quad 71 \\ \quad 69 \\ \quad +34 \\ \hline \quad 174 \end{array}$$

$$\begin{array}{r} 3. \quad 84 \\ \quad 45 \\ \quad +61 \\ \hline \quad 190 \end{array}$$

$$\begin{array}{r} 4. \quad 999 \\ \quad -374 \\ \hline \quad 625 \end{array}$$

$$\begin{array}{r} 5. \quad 500 \\ \quad -389 \\ \hline \quad 111 \end{array}$$

$$\begin{array}{r} 6. \quad 600 \\ \quad -421 \\ \hline \quad 179 \end{array}$$

$7. 54 - \underline{\quad} = 40 \quad 14$

$8. 36 - \underline{\quad} = 30 \quad 6$

$9. 49 - \underline{\quad} = 30 \quad 19$

$10. 27 + \underline{\quad} = 50 \quad 23$

$11. 73 + \underline{\quad} = 80 \quad 7$

$12. 26 + \underline{\quad} = 40 \quad 14$

$13. 8 \times \underline{\quad} = 24 \quad 3$

$14. 7 \times \underline{\quad} = 42 \quad 6$

$15. 6 \times \underline{\quad} = 48 \quad 8$

$$\begin{array}{r} 16. \quad 89 \\ \quad +15 \\ \hline \quad 104 \end{array}$$

$$\begin{array}{r} 17. \quad 50 \\ \quad -25 \\ \hline \quad 25 \end{array}$$

$$\begin{array}{r} 18. \quad 300 \\ \quad - 72 \\ \hline \quad 228 \end{array}$$

$$\begin{array}{r} 19. \quad 1,457 \\ \quad + 2,394 \\ \hline \quad 3,851 \end{array}$$

$$\begin{array}{r} 20. \quad 7,000 \\ \quad -1,329 \\ \hline \quad 5,671 \end{array}$$

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What 2 subtraction equations can you write using the same 3 numbers in the addition problem?  $32,905 - 9,345 = 23,560$  and  $32,905 - 23,560 = 9,345$

- Write the following problems for display. Direct the students to solve the problems on paper.

$$\begin{array}{r} 3,271,208 \\ + 704,685 \\ \hline 3,975,893 \end{array} \quad \begin{array}{r} 203,531,047 \\ + 16,275,873 \\ \hline 219,806,920 \end{array} \quad \begin{array}{r} 45,703 \\ 731,649 \\ + 12,478 \\ \hline 789,830 \end{array}$$

## Apply

### Student Edition pages 4–5

The Student Edition is nonconsumable and is not designed to be written in. Students should copy and complete problems on their own paper.

The Student Edition pages are designed for practicing new concepts as well as reviewing previous skills. They are intended to be checked for accuracy but not graded.

- Read and explain the directions for pages 4–5. Assist the students as they complete the pages independently.



**Daily Review**

- Students should complete Chapter 1, section *b*.

Daily Review pages are available in the Student Edition starting on page 389. Each indicated section can be completed any time after the lesson for which it is assigned.

**DIFFERENTIATED INSTRUCTION**

Use the following to provide extra help for students who experience difficulty with the concepts taught in Chapter 1.

**Line up columns.**

To help students keep the place value columns aligned, allow them to use graph paper or to turn their notebook paper sideways so that the lines form columns.

**Round to the place of greatest value.**

Write 350 for display and ask the students to tell the number of tens that are in 350. **35 tens**

Underline the 35 in 350. Ask the students to identify the hundreds that 350 comes between **300 and 400** and the number of tens that are in each hundred. **30 tens and 40 tens**

Write the students' answers as shown below, underlining the 30 in 300 and the 40 in 400. Explain to the students that they need to focus only on the first 2 digits of the number to round the number to the place of greatest value. Ask them to tell whether 35 tens rounds up to 40 tens or down to 30 tens and instruct them to explain why. **up to 40 tens; Since 35 tens is halfway between 30 tens and 40 tens, 35 tens rounds up to 40 tens.**

Follow a similar procedure for 3,500 and 35,000.

400      40 tens

350      35 tens

300      30 tens

4,000      40 hundreds

3,500      35 hundreds

3,000      30 hundreds

40,000      40 thousands

35,000      35 thousands

30,000      30 thousands

**NOTES**

# LESSON 10

Student Edition pages 22–23

## CHAPTER REVIEW

### OBJECTIVES

- Express whole numbers and decimals in standard form, word form, fraction form, expanded form, and expanded form with multiplication.
- Compare whole numbers, integers, and decimals.
- Identify addition properties and the Zero Principle of Subtraction.
- Estimate and solve addition and subtraction problems with whole numbers and decimals.
- Solve addition and subtraction word problems by using a part-whole model.
- Read and write Roman numerals.

### TEACHER RESOURCES

- 2 Part-Whole Models

The Chapter Review offers an opportunity for students to discuss the concepts they have learned in the chapter. They may work collaboratively or independently as you review concepts. Circulate among the students, giving individual help as needed. Students who demonstrate proficiency with the discussion, the modeling, and the Student Edition pages are ready for the Chapter Test. Students who encounter difficulties with the review concepts would benefit from additional coaching and practice before testing.

## CHAPTER REVIEW

### Write the number in standard form.

- 49 billions, 307 millions, 4 thousands, 39 ones  
**49,307,004,039**
- sixteen million, one hundred forty thousand, ninety-two  
**16,140,092**
- thirteen and two hundred seven thousandths  
**13.207**
- fifty-seven and eleven hundredths  
**57.11**
- $500,000,000 + 30,000,000 + 200,000 + 10,000 + 9,000 + 40 + 6$   
**530,219,046**
- $1,000,000,000 + 700,000,000 + 4,000,000 + 6,000 + 100 + 10 + 8$   
**1,704,006,118**

### Write the number in expanded form.

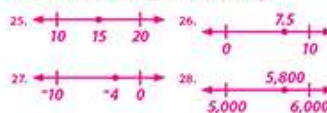
- 1,073,269
- 4,987

### Write the number in word form.

- 17.38
- 1,750

### Write a comparison sentence by using $>$ , $<$ , or $=$ .

- $489 \geq 4.89$
- $\frac{16}{100} = 0.16$
- $1,989 \leq 2,000$
- 10 thousand  $\leq$  10 million
- $7 \geq -7$
- $21,065 \leq 21,603$
- $-3 \leq 1$
- $1,000,000 \geq 947,502$
- $130,987 \geq$  one hundred thirteen thousand, nine hundred eighty-seven
- $149,706,000 \leq 100,000,000 + 40,000,000 + 9,000,000 + 700,000 + 60,000$
- $1,000,000 + 70,000 + 3,000 + 200 + 60 + 9$
- $4 + 0.9 + 0.08 + 0.007$
- seventeen and thirty-eight hundredths
- one thousand, seven hundred fifty



22 Chapter 1

### Write the numbers from least to greatest.

- 400,906   400,096   400,960   400,690  
**400,096   400,690   400,906   400,960**
- 8.96   8.906   8.9   8.096  
**8.096   8.9   8.906   8.96**
- 17,038   17,08   17,308   17,083  
**17,038   17,08   17,083   17,308**
- 4   -1   7   -12  
**-12   -4   -1   7**

### Draw a number line to complete.

- Label the endpoints 10 and 20. Draw a dot to show the approximate location of 15.
- Label the endpoints 0 and 10. Draw a dot to show the approximate location of 7.5.
- Label the endpoints -10 and 0. Draw a dot to show the approximate location of -4.
- Label the endpoints 5,000 and 6,000. Draw a dot to show the approximate location of 5,800.

### Round to the greatest place to estimate the sum or difference.

- $67,380 + 5,274$  **75,000**
- $22,003 - 13,675$  **10,000**
- $36.2 - 18.375$  **20**

### Estimate the sum or difference by using front-end estimation.

- $34,475 + 6,056 + 92,800$  **132,000**
- $802,000 - 317,876$  **490,000**
- $58,496 + 1,054$  **59**

49.  $19 = XIX$ ;  $53 = LIII$ ;  $846 = DCCCXLVI$ ;  $1,265 = MCCLXV$

52.  $\frac{19.05}{n} = 6.84$

53.  $200,000,000 + 70,000,000 + 8,000,000 + 900,000 + 40,000 + 6,000 + 300 + 80 + 4$ ; two hundred seventy-eight million, nine hundred forty-six thousand, three hundred eighty-four

### Preparation

Write the following equations for display. (Do not write the answers or the estimates.)

$$256,923 + 602,544 = 859,467 \text{ (900,000)}$$

$$4,670,000 + 8,502,044 = 13,172,044 \text{ (14,000,000)}$$

$$0.54 + 0.078 = 0.618 \text{ (1)}$$

$$2.063 + 0.4589 = 2.5219 \text{ (2)}$$

$$372,000 - 126,509 = 245,491 \text{ (300,000)}$$

$$8,050,320 - 1,642,053 = 6,408,267 \text{ (6,000,000)}$$

$$0.5 - 0.036 = 0.464 \text{ (1)}$$

$$5.4070 - 2.76 = 2.647 \text{ (2)}$$

### Expressing numbers in multiple forms

- Write "403,078,620,105" for display and use the number to review the following concepts.

Read aloud the following.

the number: four hundred three billion, seventy-eight million, six hundred twenty thousand, one hundred five  
the value of digits: hundred thousands place 600,000, one billions place 3,000,000,000, etc.

1 (also 10; 100; 1,000; 10,000; etc.)

greater than: 403,078,620,106

1 (also 10; 100; 1,000; 10,000; etc.) less than: 403,078,620,104

# LESSON 10

Solve.

$$\begin{array}{r} 35. \quad 243,942 \\ 571,806 \\ + 209,999 \\ \hline 1,025,747 \end{array}$$

$$\begin{array}{r} 37. \quad 500,000 \\ - 17,943 \\ \hline 482,057 \end{array}$$

$$39. -3 + -2 = 5$$

$$41. 0 + -6 = 6$$

Use an addition property to complete the equation.

$$43. 478 + 29 = \underline{\quad} + 478$$

$$44. 315 = \underline{\quad} + 315$$

$$45. (81 + 71) + 60 = 81 + (\underline{\quad} + 60) \quad 71$$

Find the answer.

46. Write the places in order from greatest to least.  
 hundred thousand *million*  
 hundredth *hundred thousand*  
 million *tenth*  
 tenth *hundredth*

47. Do numbers increase or decrease in value as you move right on a number line? *increase*

48. Solve  $1,495 - 738 = \underline{\quad}$ . Write an addition equation to check your answer. *757;  $757 + 738 = 1,495$*

49. Write 19, 53, 846, and 1,265 in Roman numerals.

$$\begin{array}{r} 36. \quad 5417.49 \\ 5103.98 \\ + 541.51 \\ \hline 5562.98 \end{array}$$

$$\begin{array}{r} 38. \quad 49.039 \\ - 19.467 \\ \hline 29.572 \end{array}$$

$$40. 1 + -4 = 3$$

$$42. -5 + 7 = 2$$

50. Write two addition equations and two subtraction equations with 8, 12, and 20.  *$8 + 12 = 20$ ;  $12 + 8 = 20$ ;  $20 - 12 = 8$ ;  $20 - 8 = 12$*

51. Round 11,564,298 to the nearest one million and the nearest ten thousand. *12,000,000; 11,560,000*

52. Draw a part-whole model for the equation  $n + 6.84 = 19.05$ . Solve.  *$19.05 - 6.84 = 12.21$*

53. Write 278,946,384 in expanded form and word form.

Solve.

54. Eric spends 10 min each night, Monday through Friday, reviewing his math facts. He spends 30 min each week reviewing his spelling words. How much review time does Eric spend each week reviewing math and spelling?

55. Kathleen read 3,922 pages for the summer reading program. She read 746 pages from mystery books, 1,347 pages from historical novels, and the rest from biographies. How many pages of biographies did Kathleen read?  *$746 + 1,347 = 2,093$ ;  $3,922 - 2,093 = 1,829$  pages*



54. Answers may vary.  $10 + 10 + 10 + 10 + 10 + 30 = 80$  min

Chapter Review 23

rounded to the greatest place:  
 400,000,000,000

rounded to a given place: one millions  
 403,079,000,000, ten thousands  
 403,078,620,000, etc.

written word form: four hundred three billion, seventy-eight million, six hundred twenty thousand, one hundred five  
 expanded form:  $400,000,000,000 + 3,000,000,000 + 70,000,000 + 8,000,000 + 600,000 + 20,000 + 100 + 5$

expanded form with multiplication:  
 $(4 \times 100,000,000,000) + (3 \times 1,000,000,000) + (7 \times 10,000,000) + (8 \times 1,000,000) + (6 \times 100,000) + (2 \times 10,000) + (1 \times 100) + (5 \times 1)$

• Repeat the activity with another number if needed.

• Write "6.50367" for display. Invite a student to read the decimal aloud.  
 What digit is in the tenths place? *5*  
 What is that digit's value? *5 tenths*

• Repeat the question for the thousandths place 3; 3 thousandths and the hundred thousandths place 7; 7 hundred thousandths.

How does rounding to a decimal place differ from rounding to a whole number place? I do not have to replace the digits to the right of the rounding place with 0s since the 0s will not change the value of the decimal.

What is 6.50367 rounded to the nearest (one) thousandth? *6.504*

What is 6.50367 rounded to the nearest hundredth? *6.50*

Write the rounded decimals for display. Point out that the 0 in the hundredths place of 6.50 is necessary because the hundredths is the rounding place.

• Direct the students to write "6.50367" in fraction form (as a mixed number), word form, expanded form, and expanded form with multiplication. Choose students to write the forms for display.

$6 \frac{50,367}{100,000}$ ; six and fifty thousand three hundred sixty-seven hundred thousandths;  $6 + 0.5 + 0.003 + 0.0006 + 0.00007$ ; and  $(6 \times 1) + (5 \times 0.1) + (3 \times 0.001) + (6 \times 0.0001) + (7 \times 0.00001)$

• Repeat the activity with another decimal if needed.

## Comparing numbers

• Direct the students to choose and explain a strategy to complete the following number sentences.

$$34,069,451 > 34,068,451$$

$$2.030 = 2.03$$

$$0.2181 < 0.51$$

$$0.467 > 0.01000$$

$$70,000,000 + 300,000 + 600 + 50 <$$

$$70,306,500$$

$$6 + 0.03 + 0.0004 < (6 \times 1) + (3 \times 0.01) + (4 \times 0.001)$$

## Applying properties

• Write the following equations for display. Choose students to identify and explain the property or the principle applied in each equation. For each equation, choose students to substitute whole numbers and decimals for the variables and to solve the equations.

$$a + 0 = a \text{ Identity Property of Addition}$$

$$a - 0 = a \text{ Zero Principle of Subtraction}$$

$$(a + b) + c = a + (b + c) \text{ Associative Property of Addition}$$

$$a + b = b + a \text{ Commutative Property of Addition}$$

### Estimating, solving & checking problems

- Direct the students to write the displayed addition and subtraction equations on paper, estimate each answer, and then solve. Remind them to carefully align the places when writing the problems. Discuss the problems, writing the answers to them as students give the answers. Use these questions to review the estimating, solving, and checking as needed.

What do you estimate the answer to be? Explain how you determined the estimate. What is your exact answer?

How does your exact answer compare to your estimate? Is your answer reasonable? How can you check the accuracy of your answer?

- Instruct the students to check their answers to the subtraction problems using addition.

### Solving word problems

- Guide the students in using a part-whole model to solve the following word problems. Follow a procedure similar to the one used in Lesson 6.

The morning attendance count at Faith Christian Academy was 365. Then some students went home early due to snow, so the attendance count dropped to 289. How many students went home early?

$365 - n = 289$ ; A part is missing.  
 $n = 365 - 289$ ;  $n = 76$  students

Adam is on a mission trip to South America. He spent \$65.39 for souvenirs during the first week. Adam has \$109.61 left of the money he brought for souvenirs. How much souvenir money did Adam bring on the trip?  $n = \$65.39 + \$109.61$ ; The whole is missing.  
 $n = \$175.00$

Renee is saving money for the purchase of a new bicycle that costs \$154.99. She has \$96.50 saved. How much more money does she need?  $\$96.50 + n = \$154.99$ ; A part is missing.  
 $n = \$154.99 - \$96.50$ ;  $n = \$58.49$

### Reading & writing Roman numerals

- Lead in counting as the students list vertically on paper the Roman numerals for these numbers. Discuss the patterns and the rules used to write the Roman numerals.

1–10 by 1s: I, II, III, IV, V, VI, VII, VIII, IX, X

10–100 by 10s: X, XX, XXX, XL, L, LX, LXX, LXXX, XC, C

100–1,000 by 100s: C, CC, CCC, CD, D, DC, DCC, DCCC, CM, M

Why is the Roman numerical system referred to as an "additive-subtractive" system? Instead of having unique numerals or symbols for each number, the Roman numerical system uses a method of adding or subtracting a small variety of symbols to make numbers.

What are the 3 main rules for writing Roman numerals? (1) A symbol or letter can be used only 3 times in a row; (2) when a lesser symbol follows a greater symbol, you add the lesser symbol to the greater symbol; and (3) when a lesser symbol precedes a greater symbol, you subtract the lesser symbol from the greater symbol.

- Guide the students in using place value (expanded form) to write the following Roman numerals.

$246 = 200 + 40 + 6$ ; CC + XL + VI;  
CCXLVI

$439 = 400 + 30 + 9$ ; CD + XXX + IX;  
CDXXXIX

$777 = 700 + 70 + 7$ ; DCC + LXX + VII;  
DCCLXXVII

### Student Edition pages 22–23

- Read and explain the directions for pages 22–23. Assist the students as they complete the pages independently.



# LESSON 11

Student Edition pages 24–26

## CHAPTER 1 TEST

### CUMULATIVE REVIEW

#### CONCEPT REVIEW

- Adding, subtracting, multiplying, and dividing whole numbers
- Solving equations with variables
- Adding decimals
- Determining the perimeter and the area of polygons
- Identifying the mathematical expression for a word phrase
- Identifying the fraction represented by a picture or a number line
- Measuring to the nearest inch or half inch
- Identifying the standard form of a whole number or a decimal written in expanded form

• To prepare the students for the format of achievement tests, instruct them to work on a separate sheet of paper, if necessary, and to mark their answers on the *Cumulative Review Answer Sheet*.

The *Cumulative Review Answer Sheet* has 25 answer lines, but some of the Cumulative Review pages have fewer than 25 problems.

## CUMULATIVE REVIEW

Choose the answer.

1. 
$$\begin{array}{r} 337 \\ + 954 \\ \hline \end{array}$$

A. 1,283  
**B. 1,291**  
 C. 623

2. 
$$\begin{array}{r} 590,006 \\ - 357,324 \\ \hline \end{array}$$

A. 231,692  
 B. 131,782  
**C. 232,682**

3.  $164 + n = 831$

**A.  $n = 667$**   
 B.  $n = 995$   
 C.  $n = 7$

4.  $3.7 + 4.52 = \underline{\hspace{1cm}}$

**A. 8.22**  
 B. 489  
 C. 822

5.  $57 \times 8 = \underline{\hspace{1cm}}$

A. 406  
**B. 456**  
 C. 449

6.  $79 \times 10 = \underline{\hspace{1cm}}$

A. 709  
**B. 790**  
 C. 7,900

7.  $8 \times n = 96$

A.  $n = 44$   
 B.  $n = 15$   
**C.  $n = 12$**

8.  $37 \div 6 = \underline{\hspace{1cm}}$

A. 21 r3  
 B. 5 r7  
**C. 6 r1**

9. Find the perimeter.



- A. 20 in.**  
 B. 24 in.  
 C. 10 in.

10. Find the area (number of square units).



- A. 6 ft<sup>2</sup>  
 B. 12 ft<sup>2</sup>  
**C. 9 ft<sup>2</sup>**

### Student Edition pages 24–26






The Cumulative Review provides additional practice of previously learned concepts. These pages may be completed during this lesson or anytime after this lesson, since they require limited or no teaching. Frequent review of core math concepts will help the students build mathematical knowledge and gain confidence in solving problems. Adapt instructions and activities and provide reteaching as needed to meet the specific needs of your students.

The concepts reviewed here were presented in *MATH 5*.

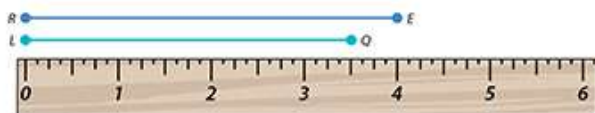
Choose the equation that fits the given description.

11. 43 students and 18 more students  
 A.  $43 \times 18 = 774$   
 B.  $43 + 18 = 61$   
 C.  $43 - 18 = 25$
12. 27 packs of gum with 5 sticks in each pack  
 A.  $27 \div 5 = 5 \text{ r}2$   
 B.  $27 \times 5 = 135$   
 C.  $27 - 5 = 22$
13. 96 cookies distributed into packages of 12 cookies  
 A.  $96 \div 12 = 8$   
 B.  $96 \times 12 = 1,152$   
 C.  $96 + 12 = 108$
14. 26 band members with 3 members out sick  
 A.  $26 \div 3 = 8 \text{ r}2$   
 B.  $26 + 3 = 29$   
 C.  $26 - 3 = 23$
15. 7 rows of 6 chairs  
 A.  $56 \div 8 = 7$   
 B.  $7 - 6 = 1$   
 C.  $7 \times 6 = 42$

Choose the number represented by the model.

16.   
 A.  $\frac{8}{10}$   
 B.  $\frac{2}{5}$   
 C.  $\frac{1}{6}$
17.   
 A.  $\frac{5}{6}$   
 B.  $\frac{3}{6}$   
 C.  $\frac{1}{2}$
18.   
 A.  $\frac{3}{5}$   
 B.  $\frac{4}{5}$   
 C.  $\frac{3}{4}$
19.   
 A.  $\frac{32}{6}$   
 B.  $2\frac{1}{2}$   
 C.  $\frac{5}{3}$
20.   
 A.  $\frac{7}{10}$   
 B.  $3\frac{1}{2}$   
 C.  $4\frac{1}{6}$

Choose the answer.

21. What is the length of  $\overline{LQ}$ ?

- A.  $3\frac{1}{2}$  in.
- B.  $4\frac{1}{2}$  in.
- C.  $3\frac{1}{2}$  in.

22. What is the length of  $\overline{RE}$ ?

- A.  $3\frac{1}{2}$  in.
- B. 4 in.
- C. 5 in.

23.  $80,000 + 7,000 + 300 + 20 + 5 = \underline{\hspace{1cm}}$ 

- A. 87,305
- B. 87,325
- C. 873.5

24.  $600 + 30 + 2 + 0.5 = \underline{\hspace{1cm}}$ 

- A. 632.5
- B. 6,325
- C. 63.25

25.  $643,872 + 10,000 = \underline{\hspace{1cm}}$ 

- A. 653,872
- B. 743,872
- C. 643,873