



Twelfth Edition

Jeffrey Slater | Sharon Wittry

Practical Business Math Procedures

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Practical Business Math Procedures

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Practical Business Math Procedures

Twelfth Edition

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PRACTICAL BUSINESS MATH PROCEDURES, TWELFTH EDITION

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Dedication

To Bernie Boy . . . My best Golden Doodle.

To Shelley . . . My best Friend.

Love, Jeff

To my lovely daughters, Tiffani and
Mallori, I could not be more proud of
you both.

Love you, Mom

Note to Students

ROADMAP TO SUCCESS

How to use this book and the Total Slater/Wittry Learning System.

Step 1: Each chapter is broken down into Learning Units. Read and master one Learning Unit at a time.

How do I know whether I understand it?

- Try the Practice Quiz. All the worked-out solutions are provided. If you still have questions, watch the authors on YouTube, in Connect, or through the instructor and work each problem out.
- For more practice, try the Extra Practice Quiz. Worked-out solutions are in Appendix B.

Once you feel confident with the subject matter, go on to the next Learning Unit in the chapter.

Step 2: Review the Interactive Chapter Organizer at the end of the chapter.

How do I know if I understand it?

- The third column, “You try it,” gives you the chance to do additional practice.

Step 3: Do assigned problems at the end of the chapter (or Appendix A). These may include discussion questions, drill, word problems, challenge problems, video cases, as well as projects from Surf to Save and Kiplinger’s magazine.

Can I check my homework?

- Appendix C has check figures for all the odd-numbered problems.

Step 4: Take the Summary Practice Test.

Can I check my progress?

- Appendix C has check figures for all problems.

What do I do if I do not match check figures?

- Review the video tutorial on YouTube, in Connect, or through the instructor—the authors work out each problem.

To aid you in studying the book, we have developed the following color code:



Blue: Movement, cancellations, steps to solve, arrows, blueprints



Purple and yellow: Formulas and steps



Green: Tables and forms



Red: Key items we are solving for

If you have difficulty with any text examples, pay special attention to the red and the blue. These will help remind you of what you are looking for as well as what the procedures are.

FEATURES

Blueprint Aid Boxes

The following are the features students have told us have helped them the most.

For the first eight chapters (not in Chapter 4), blueprint aid boxes are available to help you map out a plan to solve a word problem. We know the harder thing to do in solving word problems is often figuring out where to start. Use the blueprint as a model to get started.

Business Math Handbook

This reference guide contains all the tables found in the text. It makes homework, exams, etc., easier to deal with than flipping back and forth through the text.

Interactive Chapter Organizer

At the end of each chapter is a quick reference guide called the Interactive Chapter Organizer, in which key points, formulas, and examples are provided. A list of vocabulary terms is also included, as well as Check Figures for Extra Practice Quizzes. A column called “You try it” gives you a chance to do additional practice. And solutions are provided in Appendix B. (A complete glossary is found at the end of the text.) Think of the Interactive Chapter Organizer as your set of notes and use it as a reference when doing homework problems and reviewing before exams.



For **extra help** from your authors—Sharon and Jeff—see the videos in Connect.

These videos are also available on YouTube!

Additionally, a series of author-created tutorial videos are available on YouTube, in Connect, or through your instructor. The videos cover all of the Learning Unit Practice Quizzes and Summary Practice Tests.

Video Cases

There are six video cases applying business math concepts to real companies such as Six Flags, Subaru of Indiana Automotive, Noodles & Company, Buycostume.com, and DHL. You can watch these videos in Connect. Some background case information and assignment problems incorporating information on the companies are included at the end of Chapters 6, 7, 8, 13, 16, and 19.

Surf to Save

At the end of each chapter you will find word problems with links to sites and publications. These problems give you a chance to apply the theory provided in the chapter to the real world. Put your math skills to work.

Group Activity: Personal Finance, a Kiplinger Approach

In each chapter you can debate a business math issue based on a *Kiplinger's Personal Finance* magazine article. This is great for critical thinking, as well as improving your writing skills.

Spreadsheet Templates

Excel® templates are available for selected end-of-chapter problems. You can run these templates as-is or enter your own data. The templates also include an interest table feature that enables you to input any percentage rate and any terms. The program then generates table values for you.

Cumulative Reviews

At the end of Chapters 3, 8, and 13 are word problems that test your retention of business math concepts and procedures. Check figures for *all* cumulative review problems are in Appendix C.

Vocabulary

Each chapter opener includes a Vocabulary Preview covering the key terms in the chapter. The Interactive Chapter Organizer also includes the terms. There's also a glossary at the end of the text.

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Company/Applications

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Google—*Reading and writing numbers*
Walmart—*Rounding numbers*
Neiman Marcus—*Adding and subtracting numbers*

Chapter 2

Mobile Manufacturers—*Introduction*
M&M's/Mars—*Fractions and multiplication*

Chapter 3

Johnny Rockets—*Introduction*
Microsoft Surface—*Decimal applications*
Toyota—*Multiplication and division shortcuts for decimals*

Chapter 4

Umpqua Bank; Starbucks—*Introduction*
MasterCard; American Express—*Checking account*
Morgan Chase; Citigroup; Bank of America—*Bank reconciliation*

Chapter 5

Mattel—*Unknowns*
Stop and Shop Supermarket—*Equations*

Chapter 6

Revlon Inc.—*Introduction*
Proctor & Gamble—*Percent increase and decrease*

Chapter 7

Staples; Google—*Introduction*
Michael's—*Discounts*
Amazon; United Parcel Service—*Shipping*

Chapter 8

Gap—*Markup on cost and selling price*

Chapter 9

Levi Strauss—*Introduction*
McDonald's—*Gross pay*
Internal Revenue Service—*Circular E*

Chapter 10

Twitter—*Introduction*

Chapter 11

Treasury Department—*Treasury bills*

Chapter 12

LearnVest—*Introduction*

Chapter 13

Social Security Administration—*Introduction*
Dunkin' Donuts—*Compounding*

Chapter 14

Santander—*Introduction*
Federal Trade Commission—*Installments*
Citibank; MasterCard—*Finance Charge*

Chapter 15

Pentagon Federal Credit Union—*Mortgages*

Chapter 16

J. Crew Group Inc.—*Introduction*
Hertz—*Sarbanes-Oxley Act*
Microsoft; Oracle—*Booking revenue*
YUM Corp.—*Financial statement*
Kroger; Costco; Safeway—*Cost of goods sold*

Chapter 17

Big Lots—*Depreciation*
American Airlines—*ACRS*

Chapter 18

Sears—*Introduction*
Apple; McGraw-Hill—*Inventory turnover*
Whole Foods; Kroger; Safeway; Sprouts; Walmart—*Inventory turnover*

Chapter 19

Caton Auto—*Introduction*
Tax Foundation—*Sales Tax*

Chapter 20

Target; Neiman Marcus Group—*Cyberattacks*

Chapter 21

Skechers USA; Foot Locker—*Introduction*
Wendy's; Burger King; Domino's—*Price/earnings ratio*
Berkshire Hathaway—*Dividends*
American Funds—*Mutual funds*

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Practical Business Math Procedures

Whole Numbers: How to Dissect and Solve Word Problems

'Gangnam' Re-Styles YouTube

By MIKE AYERS

Since his breakout hit "Gangnam Style" made its debut in July 2012, it has become the most watched video on YouTube to date, scoring more than 2.1 billion views. While this feat is staggering in itself, Google posted a nugget on its YouTube Google+ page Monday about this accomplishment, saying that the video had been viewed so many times Google needed to "upgrade" the video site's back end.

When YouTube was designed, it was never expected for a video to exceed 2,147,483,647 views because of how the counter software was originally coded. "It's like a car odometer," says YouTube spokesperson Matt McLernon. "Once it rolls over the last nine, it resets." He said the com-

pany expected two billion would be enough. It wasn't. Exactly how did Google know they were in need of an upgrade?

A few months ago, site technicians noticed the view count for "Gangnam Style" would eventually hit that number and require a behind-the-scenes tweak. If they didn't do anything, in this case, the number would have remained static in the video's counter, but YouTube would continue to keep an accurate count of views in a separate location. Google updated the entire site's counter software, making it so a video can now register more than 9 quintillion views—or 9,223,372,036,854,775,808.

YouTube and Google marked the occasion with a special counter on the "Gangnam Style"

page. A cursor hovering over the counter spins through the view count in the way a mileage counter on a car would.

Along with being a catchy song—it was still in the top five of YouTube songs streamed this past summer—Psy's YouTube channel has bumped his other tracks into stratospheric numbers as well. Earlier this year, he released a collaboration with Snoop Dogg called "Hangover," which has been viewed more than 162 million times since June 8.

"This is what happens when the whole world can play something at the same time," Mr. McLernon said. "And when one video brings you to a channel, you often go and watch other videos."

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LEARNING UNIT OBJECTIVES

LU 1–1: Reading, Writing, and Rounding Whole Numbers

1. Use place values to read and write numeric and verbal whole numbers.
2. Round whole numbers to the indicated position.
3. Use blueprint aid for dissecting and solving a word problem.

LU 1–2: Adding and Subtracting Whole Numbers

1. Add whole numbers; check and estimate addition computations.
2. Subtract whole numbers; check and estimate subtraction computations.

LU 1–3: Multiplying and Dividing Whole Numbers

1. Multiply whole numbers; check and estimate multiplication computations.
2. Divide whole numbers; check and estimate division computations.

VOCABULARY PREVIEW

Here are key terms in this chapter. After completing the chapter, if you know the term, place a checkmark in the box. If you don't know the term, look it up and put the page number where it can be found.

Addends Decimal point Decimal system Difference Dividend Divisor Minuend
 Multiplicand Multiplier Partial products Partial quotient Product Quotient Remainder
 Rounding all the way Subtrahend Sum Whole number



GLOBAL

The *Wall Street Journal* clip “For Facebook Video Ads,” shows a video ad on Facebook costs about 1 million dollars *per day*.

People of all ages make personal business decisions based on the answers to number questions. Numbers also determine most of the business decisions of companies. For example, go to the website of a company such as Nike and note the importance of numbers in the company's business decision-making process.

The *Wall Street Journal* clipping “Top 10 Countries” shows that nearly 1 million workers work for Nike in 477 factories worldwide.

**For Facebook Video Ads,
\$1 Million Is Just the Start**

By REED ALBERGOTTI

A video ad on Facebook will cost advertisers about \$1 million a day, but the social network won't accept a check from just anyone.

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	Factories	Workers
1. Vietnam	65	312,667
2. China	195	249,665
3. Indonesia	40	168,167
4. Sri Lanka	23	32,224
5. Thailand	35	31,163
6. India	25	28,195
7. Brazil	55	22,592
8. Bangladesh	4	21,567
9. Mexico	25	18,525
10. Honduras	10	17,252

Source: *The Wall Street Journal*, 4/22/14.

Nike has to use numbers to see:

1. If sales goals are met.
2. If inventory outages are minimized.
3. How much should be spent on new-product development.
4. How to improve production facilities to achieve lower unit costs and better quality control.

Your study of numbers begins with a review of basic computation skills that focuses on speed and accuracy. You may think, “But I can use my calculator.” Even if your instructor allows you to use a calculator, you still must know the basic computation skills. You need these skills to know what to calculate, how to interpret your calculations, how to make estimates to recognize errors you made in using your calculator, and how to make calculations when you do not have a calculator.

The United States’ numbering system is the **decimal system** or *base 10 system*. Your calculator gives the 10 single-digit numbers of the decimal system—0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. The center of the decimal system is the **decimal point**. When you have a number with a decimal point, the numbers to the left of the decimal point are **whole numbers** and the numbers to the right of the decimal point are decimal numbers (discussed in Chapter 3). When you have a number *without* a decimal, the number is a whole number and the decimal is assumed to be after the number.

This chapter discusses reading, writing, and rounding whole numbers; adding and subtracting whole numbers; and multiplying and dividing whole numbers.

Learning Unit 1–1: Reading, Writing, and Rounding Whole Numbers

Wow! Did you know that back in 2012 over 144 billion e-mails were sent daily worldwide? In this unit, we will see how to read, write, and round whole numbers.

Now let’s begin our study of whole numbers.



Source: *The Wall Street Journal*.

LO 1



GLOBAL

Reading and Writing Numeric and Verbal Whole Numbers

The decimal system is a *place-value system* based on the powers of 10. Any whole number can be written with the 10 digits of the decimal system because the position, or placement, of the digits in a number gives the value of the digits.

To determine the value of each digit in a number, we use a place-value chart (Figure 1.1) that divides numbers into named groups of three digits, with each group separated by a comma. To separate a number into groups, you begin with the last digit in the number and insert commas every three digits, moving from right to left. This divides the number into the named groups (units, thousands, millions, billions, trillions) shown in the place-value chart. Within each group, you have a ones, tens, and hundreds place. Keep in mind that the leftmost group may have fewer than three digits.

In Figure 1.1, the numeric number 1,605,743,891,412 illustrates place values. When you study the place-value chart, you can see that the value of each place in the chart is 10 times the value of the place to the right. We can illustrate this by analyzing the last four digits in the number **1,605,743,891,412**:

$$1,412 = (1 \times 1,000) + (4 \times 100) + (1 \times 10) + (2 \times 1)$$

So we can also say, for example, that in the number 745, the “7” means seven hundred (700); in the number 75, the “7” means 7 tens (70).

To read and write a numeric number in verbal form, you begin at the left and read each group of three digits as if it were alone, adding the group name at the end (except the last units group and groups of all zeros). Using the place-value chart in Figure 1.1, the number 1,605,743,891,412 is read as one trillion, six hundred five billion, seven hundred forty-three million, eight hundred ninety-one thousand, four hundred twelve. You do not read zeros. They fill vacant spaces as placeholders so that you can correctly state the number values. Also, the numbers twenty-one to ninety-nine must have a hyphen. Note in the *Wall Street Journal* clip “Literal Translations” how place value is identified in different languages. And

Literal translations

Here is what some numbers are called in different languages. Several languages other than English more clearly identify the place value of the numbers.

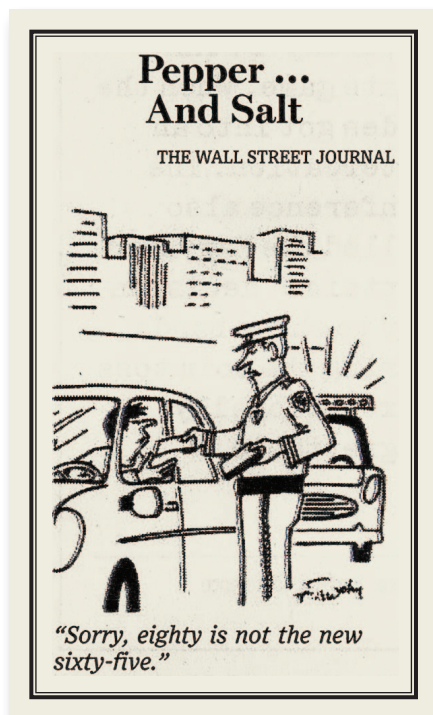
Language	27	17
English	‘twenty’-‘seven’	‘seventeen’
Chinese	‘two’-‘ten’-‘seven’	‘ten’-‘seven’
Japanese	‘two’-‘ten’-‘seven’	‘ten’-‘seven’
Turkish	‘twenty’-‘seven’	‘ten’-‘seven’

Source: *The Wall Street Journal*, 9/11/14.

FIGURE 1.1

Whole number place-value chart

Trillions			Billions			Millions			Thousands			Units		
Hundred trillions	Ten trillions	Trillions	Hundred billions	Ten billions	Billions	Hundred millions	Ten millions	Millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones (units)
		1	6	0	5	7	4	3	8	9	1	4	1	2
		Comma			Comma			Comma			Comma			Decimal Point



From *The Wall Street Journal*, permission Cartoon Features Syndicate.

most important, when you read or write whole numbers in verbal form, do not use the word *and*. In the decimal system, *and* indicates the decimal, which we discuss in Chapter 3.

By reversing this process of changing a numeric number to a verbal number, you can use the place-value chart to change a verbal number to a numeric number. Remember that you must keep track of the place value of each digit. The place values of the digits in a number determine its total value.

Before we look at how to round whole numbers, we should look at how to convert a number indicating parts of a whole number to a whole number. We will use the following

Wall Street Journal clip about Google as an example.

Google has ad revenue of 50.5 billion dollars. This amount is 50 billion plus 500 million of an additional billion. The following steps explain how to convert decimal numbers into a regular whole number:

Google and Advertisers Follow You to the Mall

By ALISTAIR BARR

Retailers have long struggled to determine whether online ads fuel sales in bricks-and-mortar stores. Now, **Google Inc.** is testing a way to solve that puzzle. A pilot program begun by the Internet company is helping

about six advertisers match the anonymous tracking cookies on users' computers to in-store sales information collected by data providers like **Acxiom Corp.** and **DataLogix Holdings Inc.**, according to people familiar with the test.

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CONVERTING PARTS OF A MILLION, BILLION, TRILLION, ETC., TO A REGULAR WHOLE NUMBER

- Step 1.** Drop the decimal point and insert a comma.
- Step 2.** Add zeros so the leftmost digit ends in the word name of the amount you want to convert. Be sure to add commas as needed.

EXAMPLE Convert 2.1 million to a regular whole number.

Step 1. 2.1 million

↓
2,1

Change the decimal point to a comma.

Step 2. 2,100,000

Add zeros and commas so the whole number indicates million.

LO 2

Rounding Whole Numbers

Many of the whole numbers you read and hear are rounded numbers. Government statistics are usually rounded numbers. The financial reports of companies also use rounded numbers. All rounded numbers are *approximate* numbers. The more rounding you do, the more you approximate the number.

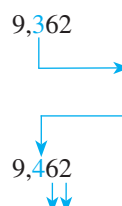
Rounded whole numbers are used for many reasons. With rounded whole numbers you can quickly estimate arithmetic results, check actual computations, report numbers that change quickly such as population numbers, and make numbers easier to read and remember.

Numbers can be rounded to any identified digit place value, including the first digit of a number (rounding all the way). To round whole numbers, use the following three steps:

ROUNDING WHOLE NUMBERS

- Step 1.** Identify the place value of the digit you want to round.
- Step 2.** If the digit to the right of the identified digit in Step 1 is 5 or more, increase the identified digit by 1 (round up). If the digit to the right is less than 5, do not change the identified digit.
- Step 3.** Change all digits to the right of the rounded identified digit to zeros.

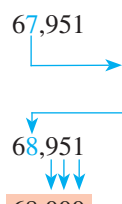
EXAMPLE 1 Round 9,362 to the nearest hundred.

- Step 1.** 9,362 The digit 3 is in the hundreds place value.
- Step 2.**  The digit to the right of 3 is 5 or more (6). Thus, 3, the identified digit in Step 1, is now rounded to 4. You change the identified digit only if the digit to the right is 5 or more.
- Step 3.** 9,400 Change digits 6 and 2 to zeros, since these digits are to the right of 4, the rounded number.

By rounding 9,362 to the nearest hundred, you can see that 9,362 is closer to 9,400 than to 9,300.

Next, we show you how to round to the nearest thousand.

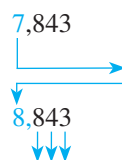
EXAMPLE 2 Round 67,951 to the nearest thousand.

- Step 1.** 67,951 The digit 7 is in the thousands place value.
- Step 2.**  The digit to the right of 7 is 5 or more (9). Thus, 7, the identified digit in Step 1, is now rounded to 8.
- Step 3.** 68,000 Change digits 9, 5, and 1 to zeros, since these digits are to the right of 8, the rounded number.

By rounding 67,951 to the nearest thousand, you can see that 67,951 is closer to 68,000 than to 67,000.

Now let's look at **rounding all the way**. To round a number all the way, you round to the first digit of the number (the leftmost digit) and have only one nonzero digit remaining in the number.

EXAMPLE 3 Round 7,843 all the way.

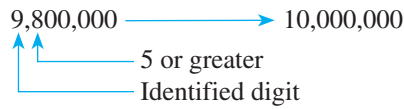
- Step 1.** 7,843 Identified leftmost digit is 7.
- Step 2.**  Digit to the right of 7 is greater than 5, so 7 becomes 8.
- Step 3.** 8,000 Change all other digits to zeros.

Rounding 7,843 all the way gives 8,000.

Remember that rounding a digit to a specific place value depends on the degree of accuracy you want in your estimate. For example, in the *Wall Street Journal* article "Wal-Mart Fights Back in China," 9.8 million rounded all the way would be 10 million. Note the digit to the right of the identified digit is 5 or greater so the identified digit (9) is rounded up to 10.



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Before concluding this unit, let's look at how to dissect and solve a word problem.

How to Dissect and Solve a Word Problem

As a student, your author found solving word problems difficult. Not knowing where to begin after reading the word problem caused the difficulty. Today, students still struggle with word problems as they try to decide where to begin.

Solving word problems involves *organization* and *persistence*. Recall how persistent you were when you learned to ride a two-wheel bike. Do you remember the feeling of success you experienced when you rode the bike without help? Apply this persistence to word problems. Do not be discouraged. Each person learns at a different speed. Your goal must be to **FINISH THE RACE** and experience the success of solving word problems with ease.

To be organized in solving word problems, you need a plan of action that tells you where to begin—a blueprint aid. Like a builder, you will refer to this blueprint aid constantly until you know the procedure. The blueprint aid for dissecting and solving a word problem appears below. Note that the blueprint aid serves an important function—it **decreases your math anxiety**.

Remember to RTDQ2: Read the darn question and then read it again before trying to solve it.



LO 3

Blueprint Aid for Dissecting and Solving a Word Problem

	The facts	Solving for?	Steps to take	Key points
BLUEPRINT				



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Now let's study this blueprint aid. The first two columns require that you *read* the word problem slowly. Think of the third column as the basic information you must know or calculate before solving the word problem. Often this column contains formulas that provide the foundation for the step-by-step problem solution. The last column reinforces the key points you should remember.

It's time now to try your skill at using the blueprint aid for dissecting and solving a word problem.

The Word Problem On the 100th anniversary of Tootsie Roll Industries, the company reported sharply increased sales and profits. Sales reached one hundred ninety-four million dollars and a record profit of twenty-two million, five hundred fifty-six thousand dollars. The company president requested that you round the sales and profit figures all the way.

Study the following blueprint aid and note how we filled in the columns with the information in the word problem. You will find the organization of the blueprint aid most helpful. Be persistent! You *can* dissect and solve word problems! When you are finished with the word problem, make sure the answer seems reasonable.

	The facts	Solving for?	Steps to take	Key points
BLUEPRINT	<p><i>Sales:</i> One hundred ninety-four million dollars.</p> <p><i>Profit:</i> Twenty-two million, five hundred fifty-six thousand dollars.</p>	<p>Sales and profit rounded all the way.</p>	<p>Express each verbal form in numeric form. Identify leftmost digit in each number.</p>	<p>Rounding all the way means only the leftmost digit will remain. All other digits become zeros.</p>

MONEY tips



Do not carry your Social Security card in your wallet. Keep it and other important documents in a safe deposit box or fireproof container. Shred any document that contains personal information, such as anything with your Social Security number on it, old bank statements, applications for loans, and so on.

Steps to solving problem

- Convert verbal to numeric.
 One hundred ninety-four million dollars → \$194,000,000
 Twenty-two million, five hundred fifty-six thousand dollars → \$ 22,556,000
- Identify leftmost digit of each number.
 \$194,000,000 \$22,556,000
- Round.
 \$200,000,000 \$20,000,000

Note that in the final answer, \$200,000,000 and \$20,000,000 have only one nonzero digit. Remember that you cannot round numbers expressed in verbal form. You must convert these numbers to numeric form.

Now you should see the importance of the information in the third column of the blueprint aid. When you complete your blueprint aids for word problems, do not be concerned if the order of the information in your boxes does not follow the order given in the text boxes. Often you can dissect a word problem in more than one way.

Your first Practice Quiz follows. Be sure to study the paragraph that introduces the Practice Quiz.

LU 1-1 PRACTICE QUIZ

Complete this **Practice Quiz** to see how you are doing.

At the end of each learning unit, you can check your progress with a Practice Quiz. If you had difficulty understanding the unit, the Practice Quiz will help identify your area of weakness. Work the problems on scrap paper. Check your answers with the worked-out solutions that follow the quiz. Ask your instructor about specific assignments and the videos available in Connect for each unit Practice Quiz.

- Write in verbal form:
 - 7,948
 - 48,775
 - 814,410,335,414
- Round the following numbers as indicated:

Nearest ten	Nearest hundred	Nearest thousand	Rounded all the way
a. 92	b. 745	c. 8,341	d. 4,752
- Kellogg's reported its sales as five million, one hundred eighty-one thousand dollars. The company earned a profit of five hundred two thousand dollars. What would the sales and profit be if each number were rounded all the way? (*Hint: You might want to draw the blueprint aid since we show it in the solution.*)

✓ Solutions

- Seven thousand, nine hundred forty-eight
 - Forty-eight thousand, seven hundred seventy-five
 - Eight hundred fourteen billion, four hundred ten million, three hundred thirty-five thousand, four hundred fourteen
- 90
 - 700
 - 8,000
 - 5,000
- Kellogg's sales and profit:



For **extra help** from your authors—Sharon and Jeff—see the videos in Connect.

These videos are also available on YouTube!

	The facts	Solving for?	Steps to take	Key points
BLUEPRINT	Sales: Five million, one hundred eighty-one thousand dollars. Profit: Five hundred two thousand dollars.	Sales and profit rounded all the way.	Express each verbal form in numeric form. Identify leftmost digit in each number.	Rounding all the way means only the leftmost digit will remain. All other digits become zeros.

Steps to solving problem

- Convert verbal to numeric.
 Five million, one hundred eighty-one thousand → \$5,181,000
 Five hundred two thousand → \$502,000
- Identify leftmost digit of each number.
 \$5,181,000 \$502,000
- Round.
 ↓ ↓
 \$5,000,000 \$500,000

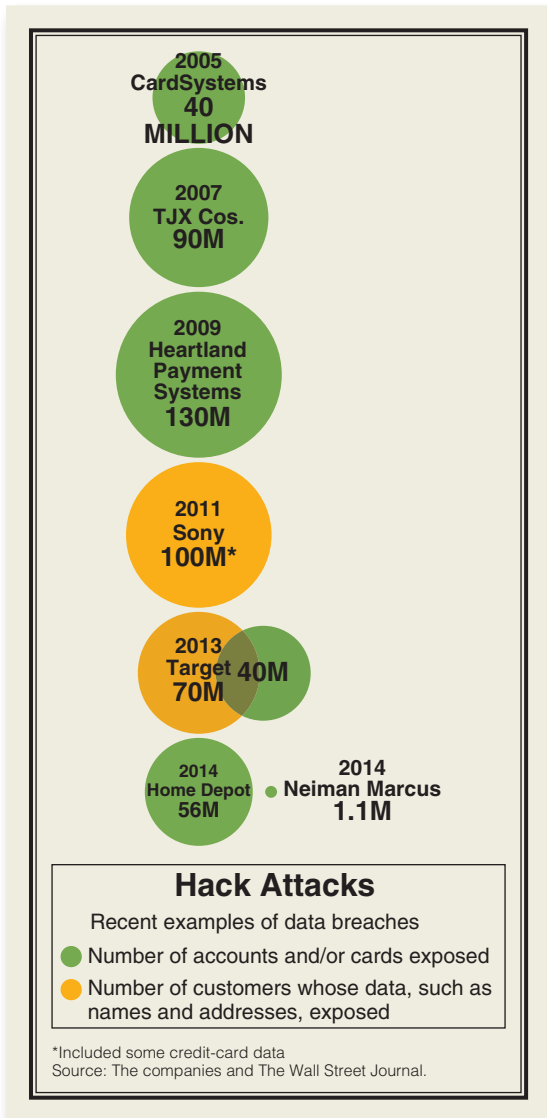
LU 1-1α EXTRA PRACTICE QUIZ WITH WORKED-OUT SOLUTIONS

Need more practice? Try this **Extra Practice Quiz** (check figures in the Interactive Chapter Organizer). Worked-out Solutions can be found in Appendix B.

- Write in verbal form:
 a. 8,682 b. 56,295 c. 732,310,444,888
- Round the following numbers as indicated:

Nearest ten	Nearest hundred	Nearest thousand	Rounded all the way
a. 43	b. 654	c. 7,328	d. 5,980
- Kellogg’s reported its sales as three million, two hundred ninety-one thousand dollars. The company earned a profit of four hundred five thousand dollars. What would the sales and profit be if each number were rounded all the way?

Learning Unit 1-2: Adding and Subtracting Whole Numbers



LO 1

We hear in the news that because of data breaches credit cards have sometimes been compromised. This means new credit cards need to be issued. Note in the *Wall Street Journal* “Hack Attacks” the difference in the costly breaches between TJX and Heartland.

Heartland	\$130,000,000
TJX	– 90,000,000
	<u> </u>
	\$ 40,000,000

This unit teaches you how to manually add and subtract whole numbers. When you least expect it, you will catch yourself automatically using this skill.

Addition of Whole Numbers

To add whole numbers, you unite two or more numbers called **addends** to make one number called a **sum**, *total*, or *amount*. The numbers are arranged in a column according to their place values—units above units, tens above tens, and so on. Then, you add the columns of numbers from top to bottom. To check the result, you re-add the columns from bottom to top. This procedure is illustrated in the steps that follow.

ADDING WHOLE NUMBERS

Step 1. Align the numbers to be added in columns according to their place values, beginning with the units place at the right and moving to the left.

Step 2. Add the units column. Write the sum below the column. If the sum is more than 9, write the units digit and carry the tens digit.

Step 3. Moving to the left, repeat Step 2 until all place values are added.