Tax Code Update

Annotated Teacher's Edition

Second Edition

Financial Algebra

ADVANCED ALGEBRA WITH FINANCIAL APPLICATIONS

Robert Gerver | Richard Sgroi

CENGAGE

Australia • Brazil • Mexico • Singapore • United Kingdom • United States

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Dr. Gerver


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Financial Algebra, Second Edition, aligns to the Common Core State Standards for Mathematical Content.

The CCSS provides clear and consistent guidelines so students, teachers, administrators, and parents have an awareness of the mathematics proficiencies expected and how to attain them. The standards are designed to be rigorous and relevant to the real world, reflecting the knowledge and skills that students need for future success.

The CCSS Domain and Standard are identified to demonstrate that *Financial Algebra*, Second Edition, addresses at least one, if not several, core standard in each section.

Conceptual Categories

- Number and Quantity
- Algebra
- Modeling
- Functions
- Geometry
- Statistics and Probability

A complete correlation of *Financial Algebra*, *Second Edition*, to the CCSS for Mathematical Content is available on the community website.

NGL.Cengage.com/FinancialAlgebra

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New to this Edition

The table below lists changes not included in the first edition. New sections are shown in blue font; new math content is listed after the sections in which it appears. Sections marked with * indicate changes for the Tax Code Update.

Chapter 1 Discretionary Expenses

- **1-1** Discretionary and Essential Expenses—measures of central tendency, frequency distributions
- ***1-2** Travel Expenses—cumulative and relative frequency, percentiles
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Inside the Student Edition

Chapter 8

The Stock Market

The safe way to double your money is to fold it over once and put it in your pocket.

—Frank Hubbard, journalist

What do you think Frank Hubbard meant in this quote?

In the future, you will incur many expenses, such as a home, automobile, insurance, food, clothing, and health care. Some are major expenses and some are minor, but each costs money. To have money for major expenses, it helps to have your savings grow in value. You have already learned how bank interest can help your money grow. However, the prevailing bank interest rates limit the degree to which your money can grow. Investing can help money grow in value, and there is no limit to the amount of growth, but you can also lose all of your investment.

You need to find a personal balance between risk and reward when you make choices about investments. Investments are never without questions. Did you miss the chance to make more money because you were being overly cautious? Was the investment too risky? Did you risk losing principal by investing in something that may not have had a sound foundation?

Investors struggle with these questions every day. The stock market is a forum in which the investment risk/reward balance is put to the test. Will the market advance? Will the market decline? No one can be certain. Will the corporations you choose flourish, grow, and succeed, or falter? With a strong knowledge of the stock market, corporations, and investment strategies, you as an investor can make decisions that are based on experience, data, trends, and mathematics.

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A **relevant quote** and **chapter introduction** set the stage for the topics covered in the chapter.

Really?

Corporations sometimes choose names that are personal, humorous, historical, or psychological. Many are acronyms, where a new word is created by the first letters of several words. Below are some well-known corporations and how their names were established.

Amazon.com was originally known as Cadabra.com. Its founder selected Amazon as a corporate name because the Amazon River has the largest volume of any river in the world. He also wanted a name that began with "A" so that alphabetically, it would appear at the top of a list.

Coca-Cola is a name that has its origins in the ingredients of the product—coca leaves and kola nuts. The founder, John Pemberton, changed the "K" in kola to a "C" for appearance purposes.

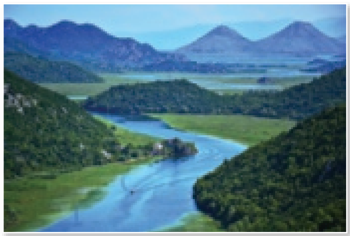
Adidas is taken from the name of the company's founder, Adolph (Adi) Dassler.

eBay was created by Pierre Omidyar, who originally wanted to use the name Echo Bay. The name was already taken by a gold mining company, so he shortened it to eBay.

LoJack is a corporation that makes automobile antitheft devices. The name is a humorous adaptation of the word "hijack."

Aflac is an acronym for the American Family Life Assurance Company.

Xerox comes from a Greek expression for "dry writing." The Xerox process was invented in 1937 by law student Chester Carlson.



Really!

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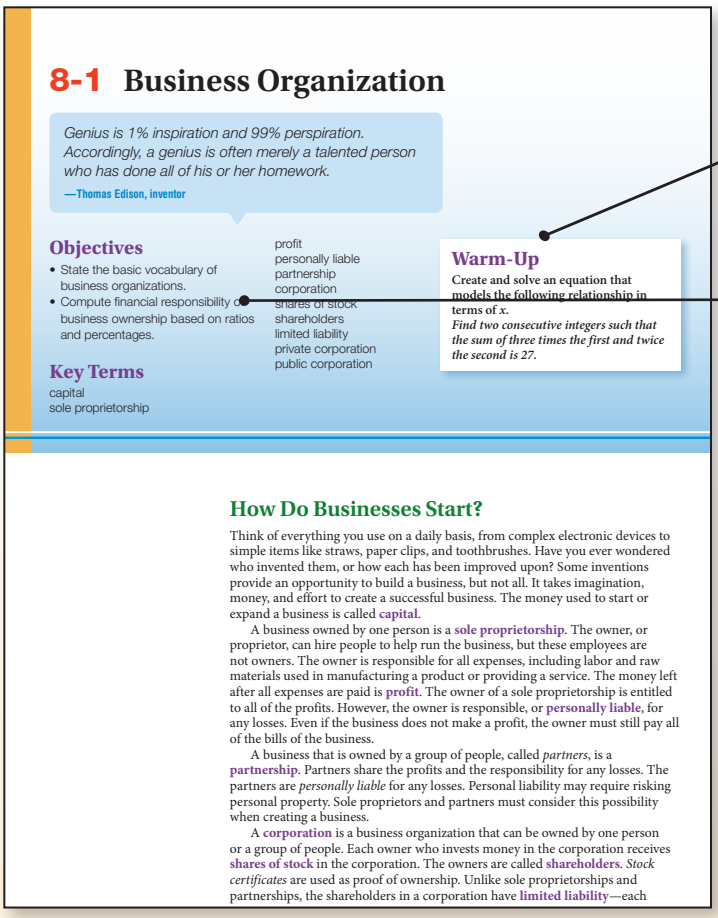
"This information is interesting and relevant! Showing real-world relevance is always a good lead into the section."

Really? Really! captures students' attention by discussing a fascinating real-life topic that relates to the chapter's content.

Structure Puts Math into Context



8-1 Business Organization

Genius is 1% inspiration and 99% perspiration. Accordingly, a genius is often merely a talented person who has done all of his or her homework.

—Thomas Edison, inventor

Objectives

- State the basic vocabulary of business organizations.
- Compute financial responsibility of business ownership based on ratios and percentages.

Key Terms

capital
sole proprietorship
profit
personally liable
partnership
corporation
shares of stock
shareholders
limited liability
private corporation
public corporation

Warm-Up

Create and solve an equation that models the following relationship in terms of *x*.
Find two consecutive integers such that the sum of three times the first and twice the second is 27.

How Do Businesses Start?

Think of everything you use on a daily basis, from complex electronic devices to simple items like straws, paper clips, and toothbrushes. Have you ever wondered who invented them, or how each has been improved upon? Some inventions provide an opportunity to build a business, but not all. It takes imagination, money, and effort to create a successful business. The money used to start or expand a business is called **capital**.

A business owned by one person is a **sole proprietorship**. The owner, or proprietor, can hire people to help run the business, but these employees are not owners. The owner is responsible for all expenses, including labor and raw materials used in manufacturing a product or providing a service. The money left after all expenses are paid is **profit**. The owner of a sole proprietorship is entitled to all of the profits. However, the owner is responsible, or **personally liable**, for any losses. Even if the business does not make a profit, the owner must still pay all of the bills of the business.

A business that is owned by a group of people, called *partners*, is a **partnership**. Partners share the profits and the responsibility for any losses. The partners are *personally liable* for any losses. Personal liability may require risking personal property. Sole proprietors and partners must consider this possibility when creating a business.

A **corporation** is a business organization that can be owned by one person or a group of people. Each owner who invests money in the corporation receives **shares of stock** in the corporation. The owners are called **shareholders**. *Stock certificates* are used as proof of ownership. Unlike sole proprietorships and partnerships, the shareholders in a corporation have **limited liability**—each

Warm-Up provides a refresher for basic concepts.

A list of **objectives** provides the main learning outcomes for the chapter.

"An intriguing quote at the beginning of each section motivates learning!"

The best way to deal with credit card debt is to educate yourself.

Mark Rosen, Author

"An interesting introduction and a great metaphor for the section!"

Although it's easy to forget sometimes, a share is not a lottery ticket . . . it's part-ownership of a business.

Peter Lynch, American businessman, Investment strategist, and Philanthropist

Nobody ever lost money taking a profit.

Bernard Baruch, Businessman

The Essential Question helps focus attention on the big idea

What are Social Security and Medicare?

How do people gain access to money they keep in the bank?

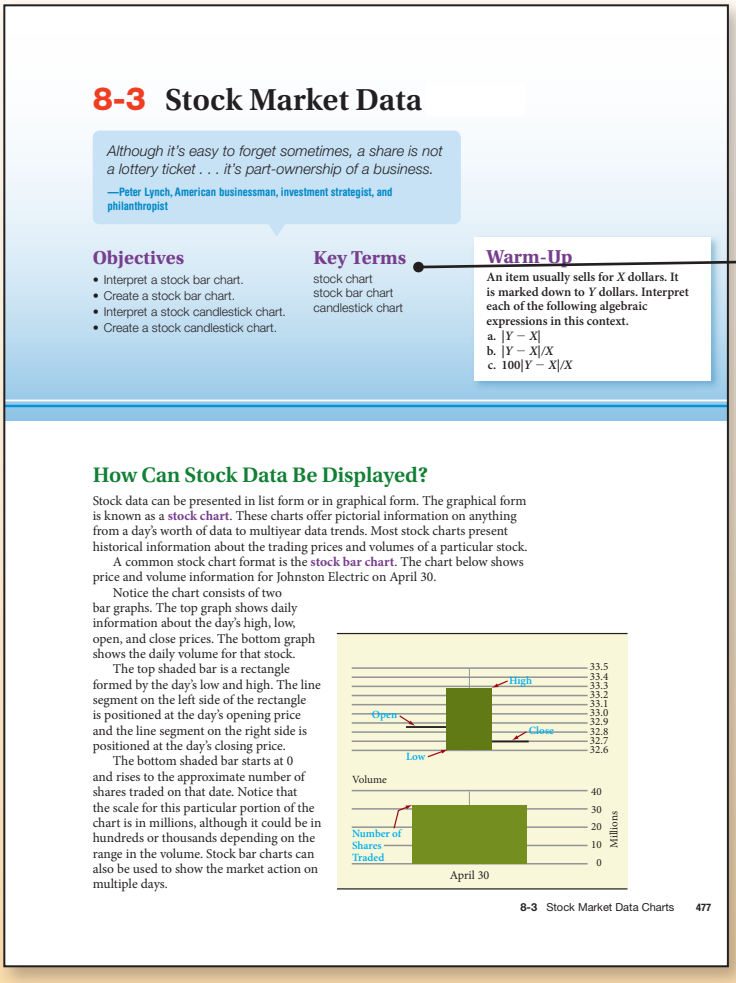
What is compound interest?

What information do you need to know before taking out a loan?

What information does a credit card statement give you?

How do revenue and expenses contribute to profit calculation?

The **Essential Question helps** focus attention on the big idea of each section. You will be able to answer the question by the end of the section.



8-3 Stock Market Data

Although it's easy to forget sometimes, a share is not a lottery ticket . . . it's part-ownership of a business.

—Peter Lynch, American businessman, investment strategist, and philanthropist

Objectives

- Interpret a stock bar chart.
- Create a stock bar chart.
- Interpret a stock candlestick chart.
- Create a stock candlestick chart.

Key Terms

stock chart
stock bar chart
candlestick chart

Warm-Up

An item usually sells for X dollars. It is marked down to Y dollars. Interpret each of the following algebraic expressions in this context.

a. $|Y - X|$
b. $|Y - X|/X$
c. $100|Y - X|/X$

How Can Stock Data Be Displayed?

Stock data can be presented in list form or in graphical form. The graphical form is known as a **stock chart**. These charts offer pictorial information on anything from a day's worth of data to multiyear data trends. Most stock charts present historical information about the trading prices and volumes of a particular stock.

A common stock chart format is the **stock bar chart**. The chart below shows price and volume information for Johnston Electric on April 30.

Notice the chart consists of two bar graphs. The top graph shows daily information about the day's high, low, open, and close prices. The bottom graph shows the daily volume for that stock.

The top shaded bar is a rectangle formed by the day's low and high. The line segment on the left side of the rectangle is positioned at the day's opening price and the line segment on the right side is positioned at the day's closing price.

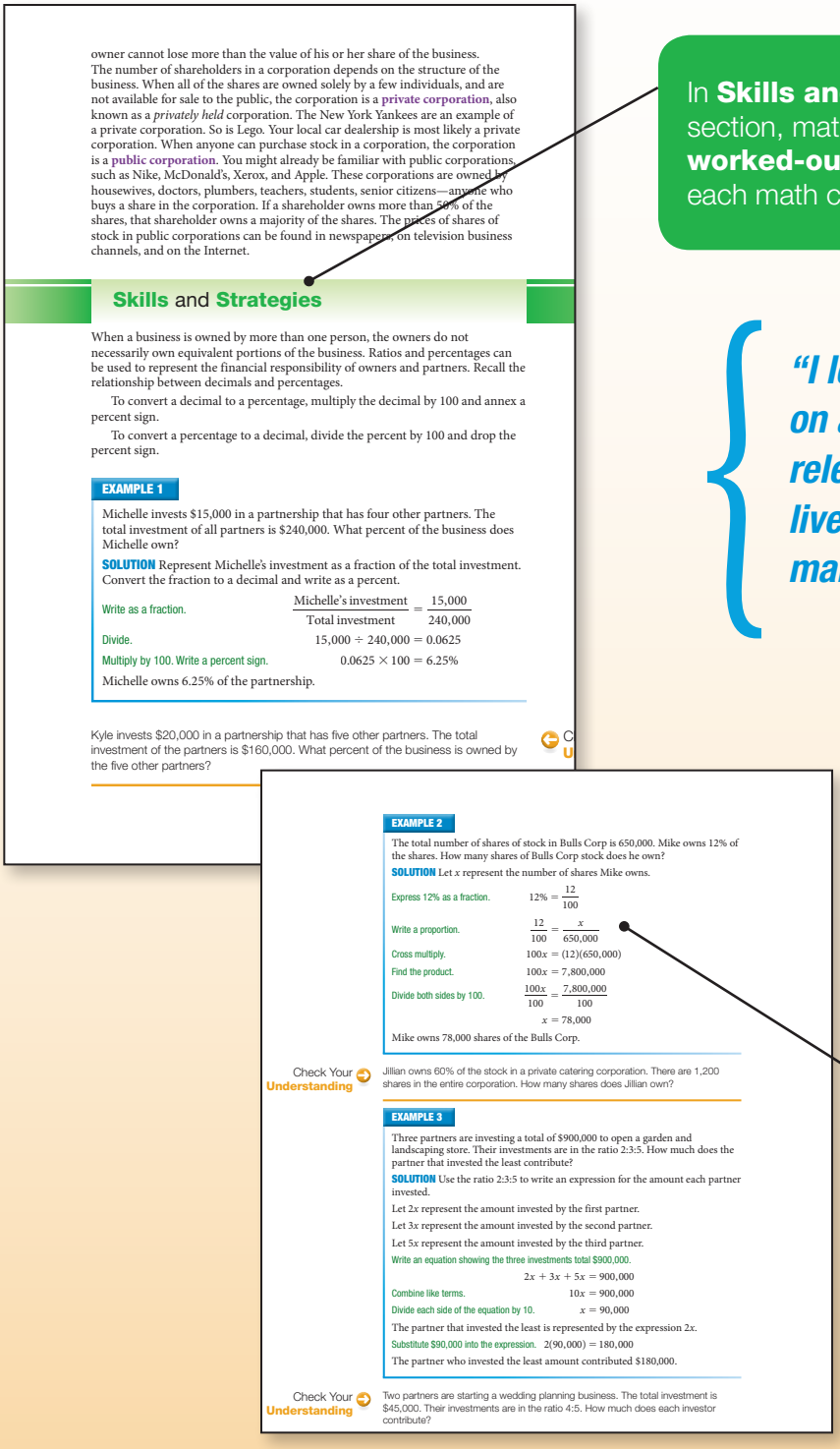
The bottom shaded bar starts at 0 and rises to the approximate number of shares traded on that date. Notice that the scale for this particular portion of the chart is in millions, although it could be in hundreds or thousands depending on the range in the volume. Stock bar charts can also be used to show the market action on multiple days.

8-3 Stock Market Data Charts 477

Each section begins with a discussion of **terms and concepts** related to the section topic.

"This book contains relevant and current information high school students need. The educational focus of today is on standards. This book allows both to be addressed."

When am I ever going to use this in real life?



owner cannot lose more than the value of his or her share of the business. The number of shareholders in a corporation depends on the structure of the business. When all of the shares are owned solely by a few individuals, and are not available for sale to the public, the corporation is a **private corporation**, also known as a *privately held* corporation. The New York Yankees are an example of a private corporation. So is Lego. Your local car dealership is most likely a private corporation. When anyone can purchase stock in a corporation, the corporation is a **public corporation**. You might already be familiar with public corporations, such as Nike, McDonald's, Xerox, and Apple. These corporations are owned by housewives, doctors, plumbers, teachers, students, senior citizens—anyone who buys a share in the corporation. If a shareholder owns more than 50% of the shares, that shareholder owns a majority of the shares. The prices of shares of stock in public corporations can be found in newspapers, on television business channels, and on the Internet.

Skills and Strategies

When a business is owned by more than one person, the owners do not necessarily own equivalent portions of the business. Ratios and percentages can be used to represent the financial responsibility of owners and partners. Recall the relationship between decimals and percentages.

To convert a decimal to a percentage, multiply the decimal by 100 and annex a percent sign.

To convert a percentage to a decimal, divide the percent by 100 and drop the percent sign.

EXAMPLE 1

Michelle invests $15,000 in a partnership that has four other partners. The total investment of all partners is $240,000. What percent of the business does Michelle own?

SOLUTION Represent Michelle's investment as a fraction of the total investment. Convert the fraction to a decimal and write as a percent.

Write as a fraction. $\frac{\text{Michelle's investment}}{\text{Total investment}} = \frac{15{,}000}{240{,}000}$

Divide. $15{,}000 \div 240{,}000 = 0.0625$

Multiply by 100. Write a percent sign. $0.0625 \times 100 = 6.25\%$

Michelle owns 6.25% of the partnership.

Kyle invests $20,000 in a partnership that has five other partners. The total investment of the partners is $160,000. What percent of the business is owned by the five other partners?

EXAMPLE 2

The total number of shares of stock in Bulls Corp is 650,000. Mike owns 12% of the shares. How many shares of Bulls Corp stock does he own?

SOLUTION Let x represent the number of shares Mike owns.

Express 12% as a fraction. $12\% = \frac{12}{100}$

Write a proportion. $\frac{12}{100} = \frac{x}{650{,}000}$

Cross multiply. $100x = (12)(650{,}000)$

Find the product. $100x = 7{,}800{,}000$

Divide both sides by 100. $\frac{100x}{100} = \frac{7{,}800{,}000}{100}$

$x = 78{,}000$

Mike owns 78,000 shares of the Bulls Corp.

Check Your Understanding — Jillian owns 60% of the stock in a private catering corporation. There are 1,200 shares in the entire corporation. How many shares does Jillian own?

EXAMPLE 3

Three partners are investing a total of $900,000 to open a garden and landscaping store. Their investments are in the ratio 2:3:5. How much does the partner that invested the least contribute?

SOLUTION Use the ratio 2:3:5 to write an expression for the amount each partner invested.

Let $2x$ represent the amount invested by the first partner.

Let $3x$ represent the amount invested by the second partner.

Let $5x$ represent the amount invested by the third partner.

Write an equation showing the three investments total $900,000. $2x + 3x + 5x = 900{,}000$

Combine like terms. $10x = 900{,}000$

Divide each side of the equation by 10. $x = 90{,}000$

The partner that invested the least is represented by the expression $2x$.

Substitute $90,000 into the expression. $2(90{,}000) = 180{,}000$

The partner who invested the least amount contributed $180,000.

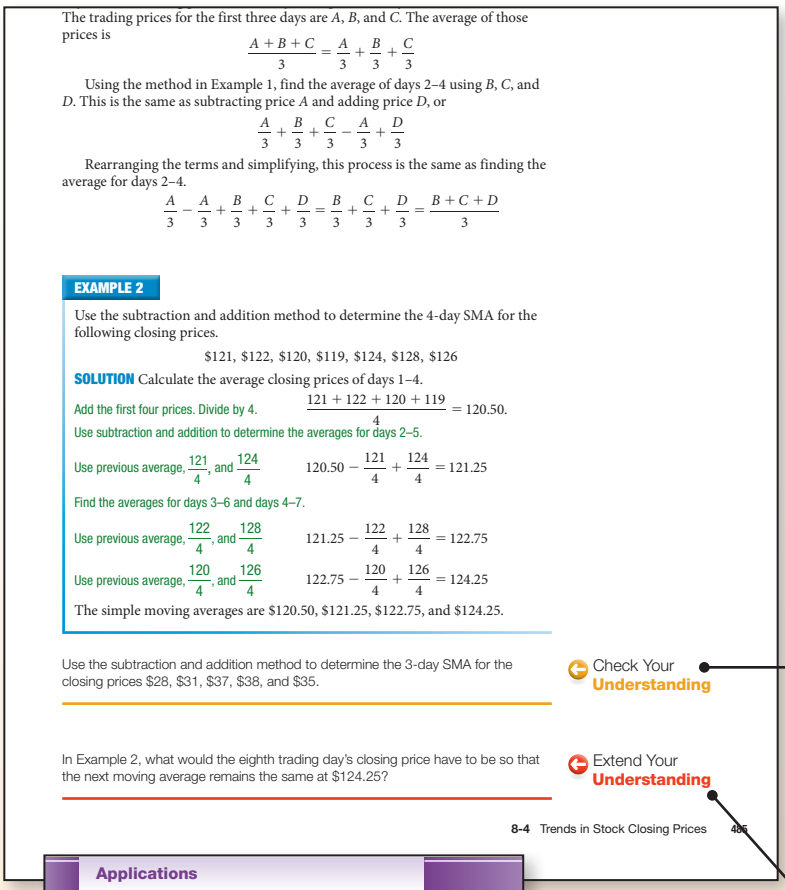
Check Your Understanding — Two partners are starting a wedding planning business. The total investment is $45,000. Their investments are in the ratio 4:5. How much does each investor contribute?

In **Skills and Strategies**, the heart of the section, math concepts are taught through **worked-out examples**. Examples present each math concept step-by-step.

> ***"I love the emphasis on applications with relevance to the world we live in, not on symbolic manipulation."***

All math concepts are taught within **real-life context**. *When am I ever going to use this in real life?* is answered here!

Ongoing Assessment and Review



The trading prices for the first three days are A, B, and C. The average of those prices is

$$\frac{A+B+C}{3} = \frac{A}{3} + \frac{B}{3} + \frac{C}{3}$$

Using the method in Example 1, find the average of days 2–4 using B, C, and D. This is the same as subtracting price A and adding price D, or

$$\frac{A}{3} + \frac{B}{3} + \frac{C}{3} - \frac{A}{3} + \frac{D}{3}$$

Rearranging the terms and simplifying, this process is the same as finding the average for days 2–4.

$$\frac{A}{3} - \frac{A}{3} + \frac{B}{3} + \frac{C}{3} + \frac{D}{3} = \frac{B}{3} + \frac{C}{3} + \frac{D}{3} = \frac{B+C+D}{3}$$

EXAMPLE 2

Use the subtraction and addition method to determine the 4-day SMA for the following closing prices.

$121, $122, $120, $119, $124, $128, $126

SOLUTION Calculate the average closing prices of days 1–4.

Add the first four prices. Divide by 4. $\frac{121+122+120+119}{4} = 120.50$.

Use subtraction and addition to determine the averages for days 2–5.

Use previous average, $\frac{121}{4}$, and $\frac{124}{4}$ $\quad 120.50 - \frac{121}{4} + \frac{124}{4} = 121.25$

Find the averages for days 3–6 and days 4–7.

Use previous average, $\frac{122}{4}$, and $\frac{128}{4}$ $\quad 121.25 - \frac{122}{4} + \frac{128}{4} = 122.75$

Use previous average, $\frac{120}{4}$, and $\frac{126}{4}$ $\quad 122.75 - \frac{120}{4} + \frac{126}{4} = 124.25$

The simple moving averages are $120.50, $121.25, $122.75, and $124.25.

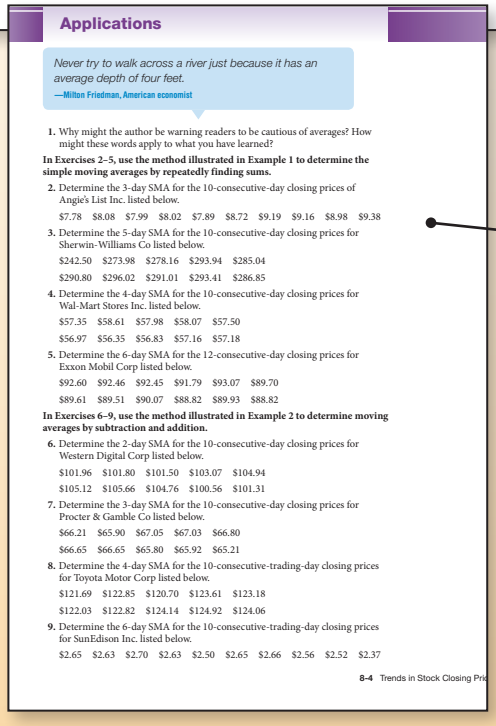
Use the subtraction and addition method to determine the 3-day SMA for the closing prices $28, $31, $37, $38, and $35.

Check Your Understanding

In Example 2, what would the eighth trading day's closing price have to be so that the next moving average remains the same at $124.25?

Extend Your Understanding

8-4 Trends in Stock Closing Prices 485



Applications

Never try to walk across a river just because it has an average depth of four feet.
—Milton Friedman, American economist

1. Why might the author be warning readers to be cautious of averages? How might these words apply to what you have learned?

In Exercises 2–5, use the method illustrated in Example 1 to determine the simple moving averages by repeatedly finding sums.

2. Determine the 3-day SMA for the 10-consecutive-day closing prices of Angie's List Inc. listed below.
$7.78 $8.08 $7.99 $8.02 $7.89 $8.72 $9.19 $9.16 $8.98 $9.38
3. Determine the 5-day SMA for the 10-consecutive-day closing prices for Sherwin-Williams Co listed below.
$242.50 $273.98 $278.16 $293.94 $285.04
$290.80 $296.02 $291.01 $293.41 $286.85
4. Determine the 4-day SMA for the 10-consecutive-day closing prices for Wal-Mart Stores Inc. listed below.
$57.35 $58.61 $57.98 $58.07 $57.50
$56.97 $56.35 $56.83 $57.16 $57.18
5. Determine the 6-day SMA for the 12-consecutive-day closing prices for Exxon Mobil Corp listed below.
$92.60 $92.46 $92.45 $91.79 $93.07 $89.70
$89.61 $89.51 $90.07 $88.82 $89.93 $88.82

In Exercises 6–9, use the method illustrated in Example 2 to determine moving averages by subtraction and addition.

6. Determine the 2-day SMA for the 10-consecutive-day closing prices for Western Digital Corp listed below.
$101.96 $101.80 $101.50 $103.07 $104.94
$105.12 $105.66 $104.76 $100.56 $101.31
7. Determine the 3-day SMA for the 10-consecutive-day closing prices for Procter & Gamble Co listed below.
$66.21 $65.90 $67.05 $67.03 $66.80
$66.65 $66.65 $65.80 $65.92 $65.21
8. Determine the 4-day SMA for the 10-consecutive-trading-day closing prices for Toyota Motor Corp listed below.
$121.69 $122.85 $120.70 $123.61 $123.18
$122.03 $122.82 $124.14 $124.92 $124.06
9. Determine the 6-day SMA for the 10-consecutive-trading-day closing prices for SunEdison Inc. listed below.
$2.65 $2.63 $2.70 $2.63 $2.50 $2.65 $2.66 $2.56 $2.52 $2.37

8-4 Trends in Stock Closing Pric

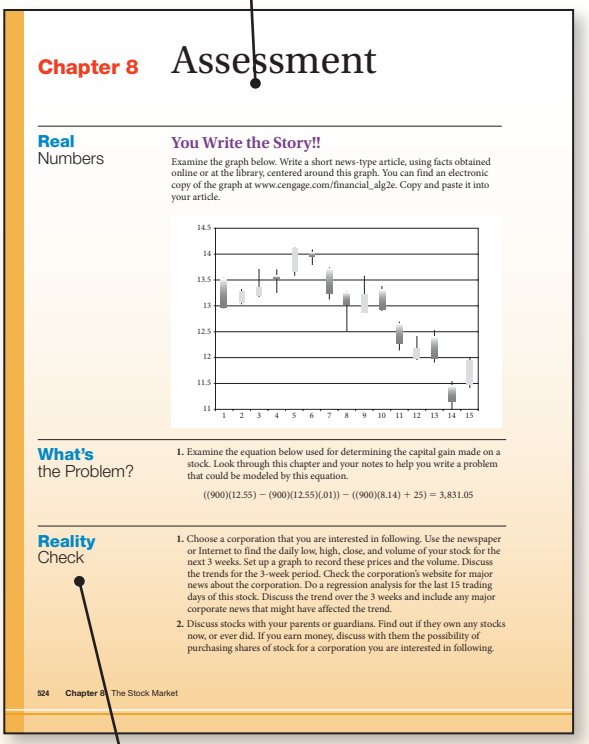
"I like the immediate check of understanding instead of waiting until the end of the chapter."

Check Your Understanding allows you to immediately practice the concept on your own. The questions are similar to the example and help you gauge your understanding of the skills being taught.

Extend Your Understanding provides an opportunity to solve a more challenging problem.

Carefully developed, proven **applications at the end of each section** require you to apply the concepts to a specific question or scenario.

Chapter Assessment provides an opportunity to check your knowledge of the chapter content.



Chapter 8 Assessment

Real Numbers

You Write the Story!!

Examine the graph below. Write a short news-type article, using facts obtained online or at the library, centered around this graph. You can find an electronic copy of the graph at www.cengage.com/financial_alg2e. Copy and paste it into your article.

What's the Problem?

1. Examine the equation below used for determining the capital gain made on a stock. Look through this chapter and your notes to help you write a problem that could be modeled by this equation.

$$((900)(12.55) - (900)(12.55)(.01)) - ((900)(8.14) + 25) = 3{,}831.05$$

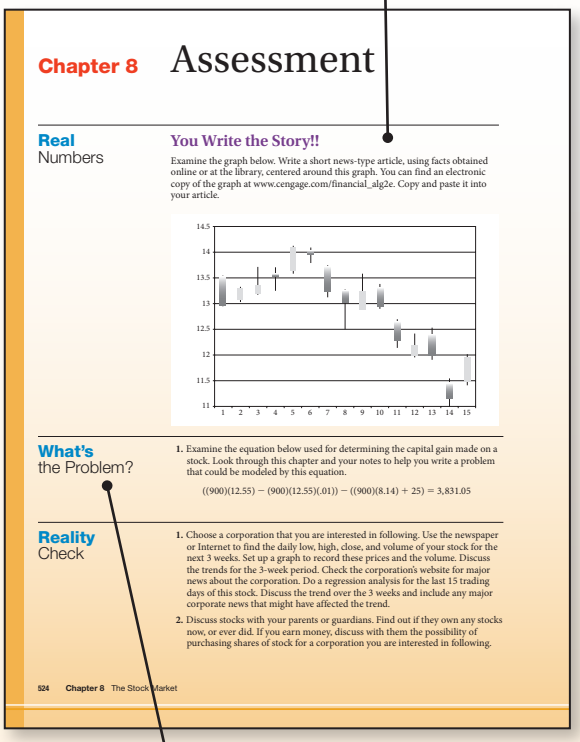
Reality Check

1. Choose a corporation that you are interested in following. Use the newspaper or Internet to find the daily low, high, close, and volume of your stock for the next 3 weeks. Set up a graph to record these prices and the volume. Discuss the trends for the 3-week period. Check the corporation's website for major news about the corporation. Do a regression analysis for the last 15 trading days of this stock. Discuss the trend over the 3 weeks and include any major corporate news that might have affected the trend.
2. Discuss stocks with your parents or guardians. Find out if they own any stocks now, or ever did. If you earn money, discuss with them the possibility of purchasing shares of stock for a corporation you are interested in following.

524 Chapter 8 The Stock Market

Reality Check provides specific suggestions for research opportunities, projects, and guest speakers to extend your learning experience.

Real Numbers: You Write the Story! asks you to examine a graph and write a story focused around the graph's information, giving you an opportunity to be creative while at the same time sharpening your graph interpretation skills.



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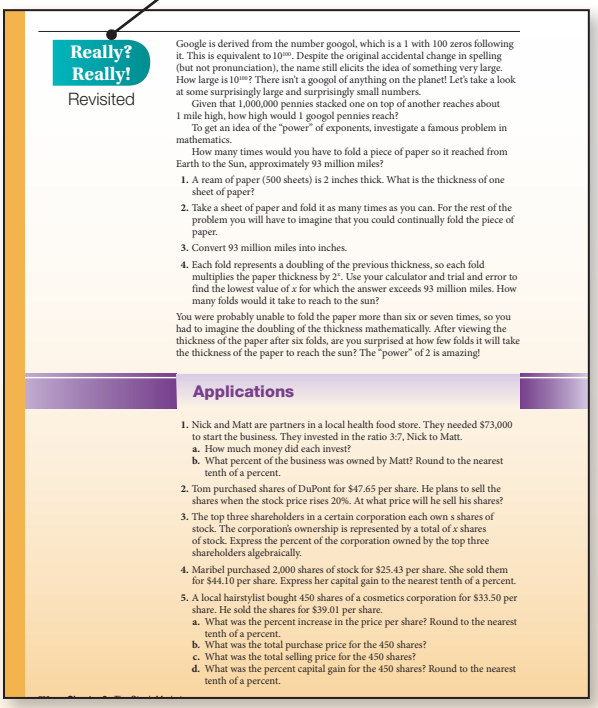
What's The Problem? provides you with a problem posing activity related to a chapter problem. You are given an equation or formula featured in the chapter, with numerical substitutions for each variable. You then have to think backwards and create the problem, using the numbers, that have a solution modeled by the given equation.

"Excellent activities that help connect math to the real world."

Really? Really! Revisited continues the theme of the Really? Really! feature at the beginning of each chapter. In Really? Really! Revisited, you use mathematics to solve a problem or extension related to the Really? Really! theme.



Really? Really! Revisited

Google is derived from the number googol, which is a 1 with 100 zeros following it. This is equivalent to 10^{100}. Despite the original accidental change in spelling (but not pronunciation), the name still elicits the idea of something very large. How large is 10^{100}? There isn't a googol of anything on the planet! Let's take a look at some surprisingly large and surprisingly small numbers.

Given that 1,000,000 pennies stacked one on top of another reaches about 1 mile high, how high would 1 googol pennies reach?

To get an idea of the "power" of exponents, investigate a famous problem in mathematics.

How many times would you have to fold a piece of paper so it reached from Earth to the Sun, approximately 93 million miles?

1. A ream of paper (500 sheets) is 2 inches thick. What is the thickness of one sheet of paper?
2. Take a sheet of paper and fold it as many times as you can. For the rest of the problem you will have to imagine that you could continually fold the piece of paper.
3. Convert 93 million miles into inches.
4. Each fold represents a doubling of the previous thickness, so each fold multiplies the paper thickness by 2. Use your calculator and trial and error to find the lowest value of x for which the answer exceeds 93 million miles. How many folds would it take to reach to the sun?

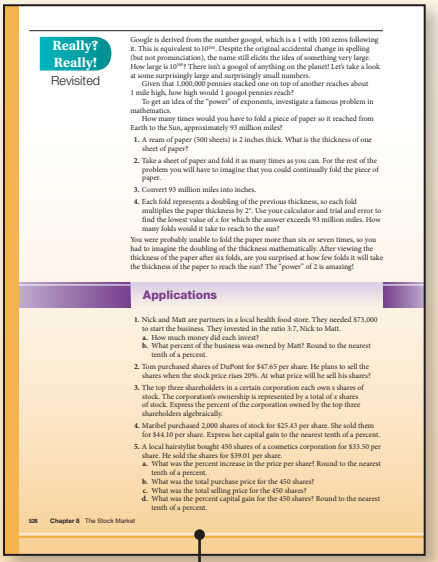
You were probably unable to fold the paper more than six or seven times, so you had to imagine the doubling of the thickness mathematically. After viewing the thickness of the paper after six folds, are you surprised at how few folds it will take the thickness of the paper to reach the sun? The "power" of 2 is amazing!

Applications

1. Nick and Matt are partners in a local health food store. They needed $73,000 to start the business. They invested in the ratio 3:7, Nick to Matt.
   a. How much money did each invest?
   b. What percent of the business was owned by Matt? Round to the nearest tenth of a percent.
2. Tom purchased shares of DuPont for $47.65 per share. He plans to sell the shares when the stock price rises 20%. At what price will he sell his shares?
3. The top three shareholders in a certain corporation each own s shares of stock. The corporation's ownership is represented by a total of x shares of stock. Express the percent of the corporation owned by the top three shareholders algebraically.
4. Maribel purchased 2,000 shares of stock for $25.43 per share. She sold them for $44.10 per share. Express her capital gain to the nearest tenth of a percent.
5. A local hairstylist bought 450 shares of a cosmetics corporation for $33.50 per share. He sold the shares for $39.01 per share.
   a. What was the percent increase in the price per share? Round to the nearest tenth of a percent.
   b. What was the total purchase price for the 450 shares?
   c. What was the total selling price for the 450 shares?
   d. What was the percent capital gain for the 450 shares? Round to the nearest tenth of a percent.

"I love how it is tied to what started the chapter!"

"Great variety of problems that will prepare students for life outside of school!"



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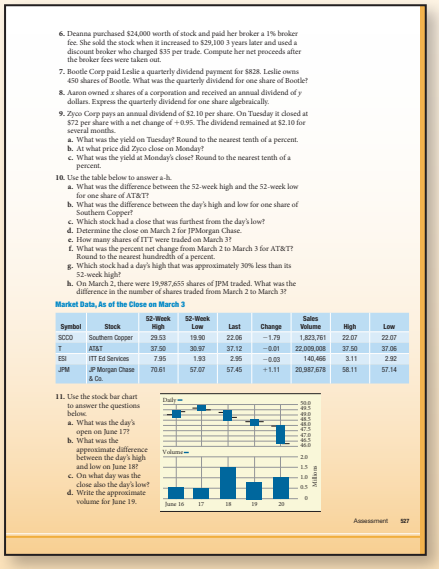
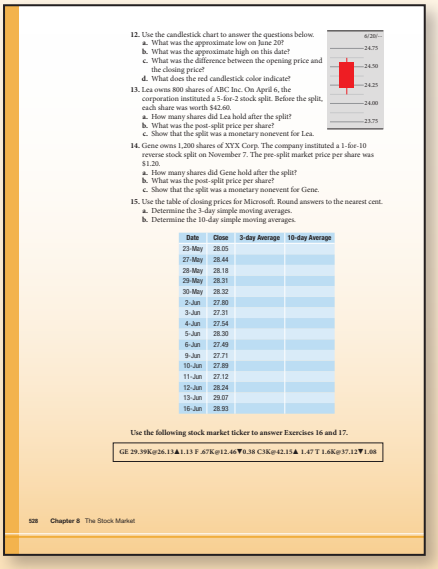


6. Deanna purchased $24,000 worth of stock and paid her broker a 1% broker fee. She sold the stock when it increased to $29,100 3 years later and used a discount broker who charged $35 per trade. Compute her net proceeds after the broker fees were taken out.
7. Bootle Corp paid Leslie a quarterly dividend payment for $828. Leslie owns 450 shares of Bootle. What was the quarterly dividend for one share of Bootle?
8. Aaron owned x shares of a corporation and received an annual dividend of y dollars. Express the quarterly dividend for one share algebraically.
9. Zyco Corp pays an annual dividend of $2.10 per share. On Tuesday it closed at $72 per share with a net change of +0.95. The dividend remained at $2.10 for several months.
   a. What was the yield on Tuesday? Round to the nearest tenth of a percent.
   b. At what price did Zyco close on Monday?
   c. What was the yield at Monday's close? Round to the nearest tenth of a percent.
10. Use the table below to answer a–h.
    a. What was the difference between the 52-week high and the 52-week low for one share of AT&T?
    b. What was the difference between the day's high and low for one share of Southern Copper?
    c. Which stock had a close that was furthest from the day's low?
    d. Determine the close on March 2 for JPMorgan Chase.
    e. How many shares of ITT were traded on March 3?
    f. What was the percent net change from March 2 to March 3 for AT&T? Round to the nearest hundredth of a percent.
    g. Which stock had a day's high that was approximately 30% less than its 52-week high?
    h. On March 2, there were 19,987,655 shares of JPM traded. What was the difference in the number of shares traded from March 2 to March 3?

Market Data, As of the Close on March 3

Symbol	Stock	52-Week High	52-Week Low	Last	Change	Sales Volume	High	Low
SCCO	Southern Copper	29.53	19.90	22.06	−1.79	1,823,761	22.07	22.07
T	AT&T	37.50	30.97	37.12	−0.01	22,009,008	37.50	37.06
ESI	ITT Ed Services	7.95	1.93	2.95	−0.03	140,466	3.11	2.92
JPM	JP Morgan Chase & Co.	70.81	57.07	57.45	+1.11	20,987,678	58.11	57.14

11. Use the stock bar chart to answer the questions below.
    a. What was the day's open on June 17?
    b. What was the approximate difference between the day's high and low on June 18?
    c. On what day was the close also the day's low?
    d. Write the approximate volume for June 19.



12. Use the candlestick chart to answer the questions below.
    a. What was the approximate low on June 20?
    b. What was the approximate high on this date?
    c. What was the difference between the opening price and the closing price?
    d. What does the red candlestick color indicate?
13. Lea owns 800 shares of ABC Inc. On April 6, the corporation instituted a 5-for-2 stock split. Before the split, each share was worth $42.60.
    a. How many shares did Lea hold after the split?
    b. What was the post-split price per share?
    c. Show that the split was a monetary nonevent for Lea.
14. Gene owns 1,200 shares of XYX Corp. The company instituted a 1-for-10 reverse stock split on November 7. The pre-split market price per share was $1.20.
    a. How many shares did Gene hold after the split?
    b. What was the post-split price per share?
    c. Show that the split was a monetary nonevent for Gene.
15. Use the table of closing prices for Microsoft. Round answers to the nearest cent.
    a. Determine the 3-day simple moving averages.
    b. Determine the 10-day simple moving averages.

Date	Close	3-day Average	10-day Average
23-May	28.05		
27-May	28.44		
28-May	28.18		
29-May	28.31		
30-May	28.32		
2-Jun	27.80		
3-Jun	27.31		
4-Jun	27.54		
5-Jun	28.30		
6-Jun	27.49		
9-Jun	27.71		
10-Jun	27.89		
11-Jun	27.12		
12-Jun	28.24		
13-Jun	29.07		
16-Jun	28.93		

Use the following stock market ticker to answer Exercises 16 and 17.

GE 29.39K@26.13▲1.13 F .67K@12.46▼0.38 C3K@42.15▲ 1.47 T 1.6K@37.12▼1.08

Meaningful applications at the end of each chapter require you to apply concepts that were taught throughout the chapter.

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