9. Which of the following is a true statement? Explain your reasoning.

The 52-week high can never be higher than the day's high.
The day's high can never be higher than the 52-week high.

10. At the end of the trading day on April 25, Texas Instruments Inc closed at $28.84, which was a +5.22% net change from the previous day's close. What was the approximate close on the previous day?

11. On April 25, Berkshire Hathaway Inc closed at $126,875 per share. One year earlier, one share closed at $108,750. What was an approximate one-year percent change?

Use the spreadsheet below to answer Exercises 12–16.

	A	B	C	D	E	F	G	H
			April 25			April 24	Volume in	Volume in
1	Symbol	Stock	Last	Change	% Change	Close	1,000s	100s
2	AAPL	Apple Inc	169.73	0.79		168.94	35,445	
3	BBW	Build-A-Bear Workshop Inc	10.15	1.15	12.78%		616	
4	CTB	Cooper Tire & Rubber Co	14.7	−1.82		16.52	2,671	
5	F	Ford Motor Co	7.5	−0.9			227,269	
6	INTC	Intel Corp	22.56		−0.57%		47,604	
7	MSFT	Microsoft Corp	29.83		−6.19%	31.80	145,194	
8	NTGR	NETGEAR Inc	16.76	−3.37	−16.74%		8,085	
9	YHOO	Yahoo! Inc	26.8		−1.83%		50,523	

12. Write a formula that will convert the volume given in 1,000s into a volume given in 100s. Use the left side of the equation to indicate in which cell to store the formula.
  a. Intel Corp   **b.** Yahoo! Inc

13. Write a formula that will store the exact volume for each stock in column I. Use the left side of the equation to indicate in which cell to store the formula.
  a. Build-A-Bear Workshop Inc   **b.** NETGEAR Inc

14. Write a formula to determine the close on April 24 for each of the following. Use the left side of the equation to indicate in which cell to store the formula.
  a. NETGEAR Inc   **b.** Ford Motor Co

15. Write a formula to determine the percent change for each of the following. Use the left side of the equation to indicate in which cell to store the formula.
  a. Apple Inc   **b.** Cooper Tire & Rubber Co

16. Write a formula to determine the net change for each. Use the left side of the equation to indicate in which cell to store the formula.
  a. Microsoft Corp   **b.** Cooper Tire & Rubber Co

1-3 Stock Market Data Charts

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

HOW CAN STOCK DATA BE DISPLAYED?

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 General Electric on April 30.

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

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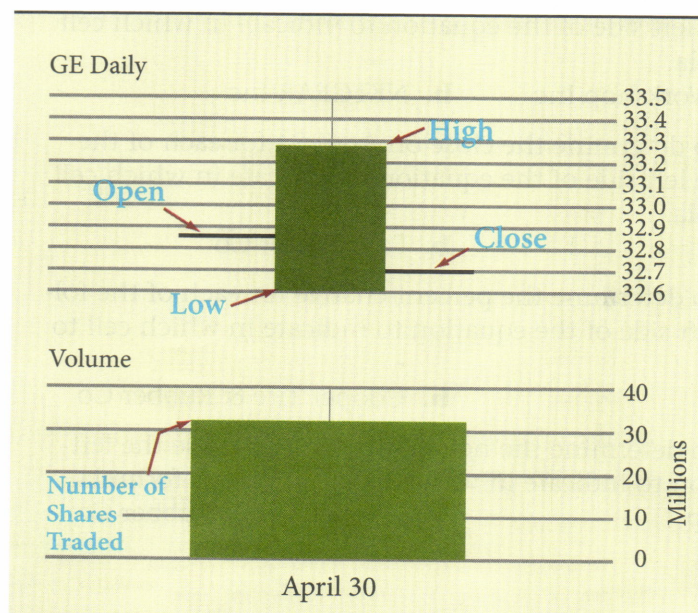
The bottom shaded bar starts at 0 and rises to the approximate number of shares traded on that date. Notice that the scale for this particular portion of the chart is in millions, although it could be in hundreds or thousands depending upon the range in the volume. Stock bar charts can also be used to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

Here you will learn how to interpret and create stock charts. The stock bar chart below presents trading information for the week of April 28 for Ford Motor Company.
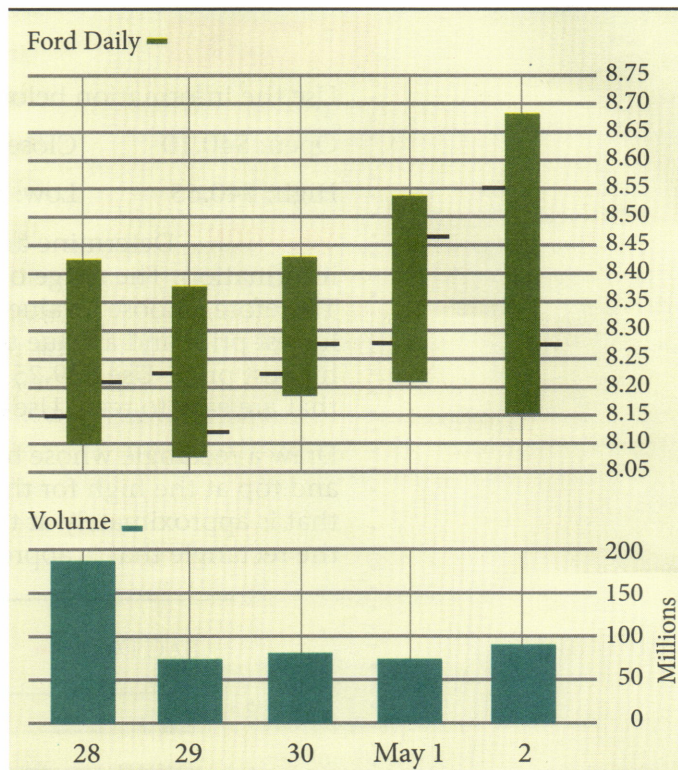
EXAMPLE 1

Which day had the greatest high price? Which day had the least low price?

SOLUTION The top portion of the chart shows the day's trading prices. Because the top of each bar represents the day's high price, the greatest high for the week was on May 2.

The bottom of each bar represents the day's low price, so the lowest low for the week occurred on April 29.

■ **CHECK YOUR UNDERSTANDING**

Between which two days did after-hours trading appear to have the biggest impact on the difference between the closing price and the following day's opening price?

EXAMPLE 2

Approximately how many shares of Ford Motor Company were traded over the five-day period?

SOLUTION The bottom portion of the chart shows the daily volume of shares traded. The scale is in millions of shares. While it is not possible to give an exact accounting of each day's volume, you can determine approximations of these amounts.

For April 28, the top of the volume bar reaches at a point slightly higher than half the distance between the 150 million and 200 million lines. An approximation of the day's volume is 185 million shares.

For April 29, the volume appears to be slightly above the 50 million line. So an approximation is 60 million shares.

Approximations for the rest of the week's trading volumes are 65 million, 60 million, and 90 million.

Add the five approximations. $185 + 60 + 65 + 60 + 90 = 460$

About 460,000,000 shares of Ford Motor Company were traded during the week of April 28.

Use the stock bar chart to write a brief financial story of the trading action that occurred for Ford Motor Company on April 28 and April 29. Begin your story with "On April 28, one share of Ford Motor Company opened at $8.15. During the day . . . "

EXAMPLE 3

Use the information below to construct a one-day stock bar chart.

Open: $40.10   Close: $39.79

High: $40.65   Low: $39.39   Volume: 44,500,000

SOLUTION   Determine an appropriate interval to use to display the information. The range of the daily prices is from $39.39 to $40.65. Therefore, choose a value to begin the interval that is less than the lowest price and a value to end the interval that is greater than the highest price. Use $39.25 to $40.75. Next, establish interval amounts that are easy to read. Use intervals of $0.25.

Draw a rectangle whose bottom is positioned at the low for the day and top at the high for the day. Draw a line to the left of the rectangle that is approximately at the opening price and a line to the right of the rectangle that is approximately at the closing price.
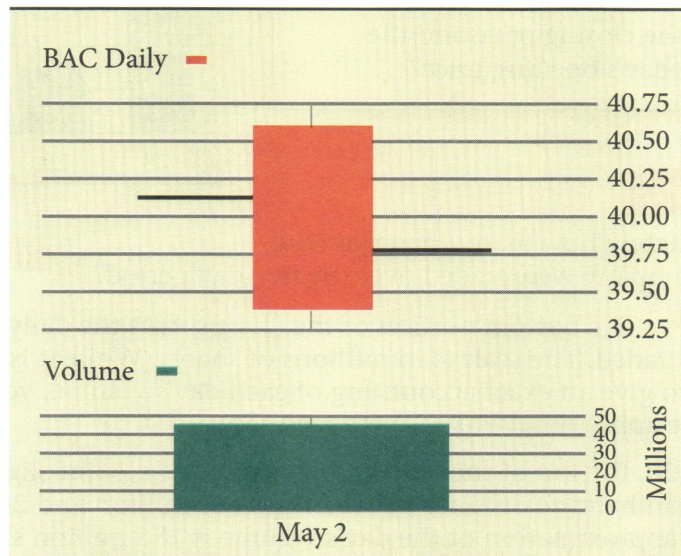
Next construct the volume portion of the chart. Select a suitable interval in millions, in this case 0 to 50. Beginning at 0, construct a bar that rises to the approximate volume for the day.

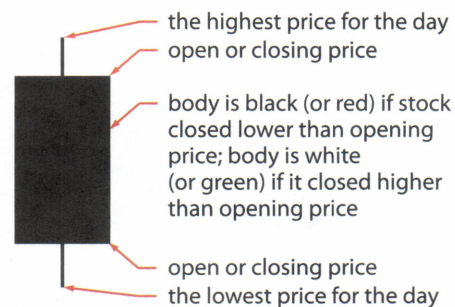These two portions form a one-day stock bar chart.

Suppose that trading was suspended for one entire day for a corporation. What might the stock bar chart look like?

Candlestick Charts

Another type of chart that is similar to a stock bar chart is a **candlestick chart**. A candlestick chart may be easier to read and contains more information at a glance. The top and bottom of the vertical line indicate the high and low prices over the given time period. The rectangular region is known as the *real body* and is displayed in two different colors depending upon the action for the day on that stock.

The colors used to indicate the changes in the day's prices can be customized. The candlestick chart for Sept. 7–11 depicts market action for a particular stock for five days in September. The green candlestick indicates that the closing price is greater than the opening price. The red candlestick indicates the opposite; the closing price is less than the opening price.

the highest price for the day
open or closing price

body is black (or red) if stock closed lower than opening price; body is white (or green) if it closed higher than opening price

open or closing price
the lowest price for the day

EXAMPLE 4

Explain the difference between the market action on September 8 compared to September 9 shown in the candlestick chart for Sept. 7–11.

SOLUTION   The candlestick is green on September 8, which means the closing price for the day was higher than the opening price. The red candlestick on September 9 indicates that the opening price for the day was higher than the closing price.

■ CHECK YOUR UNDERSTANDING

Interpret a green candlestick that is shown as only a rectangle with no lines at the top or bottom.

Candlestick Chart, Sept. 7–11

EXAMPLE 5

What was the approximate difference between the highest price and the lowest price for the week shown in the candlestick chart for Sept. 7–11?

SOLUTION   The highest price for the week, approximately $39.90, occurred on September 7 as indicated by the highest portion of any of the candlesticks.
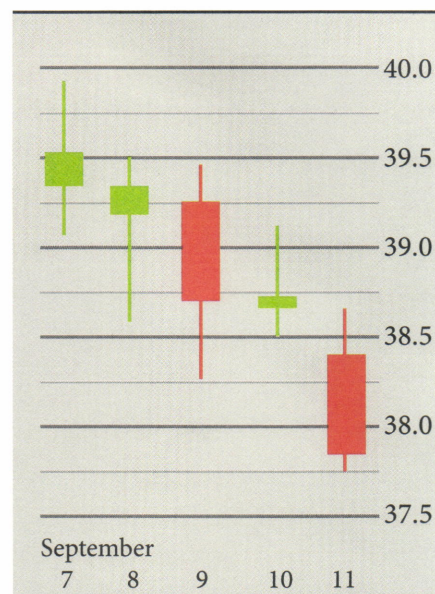
The lowest price for the week, approximately $37.75, occurred on September 11 as indicated by the lowest portion of any of the candlesticks.

The difference between the week's high and low prices is approximately $39.90 – $37.75, or $2.15.

■ CHECK YOUR UNDERSTANDING

The lengths of the candlesticks for September 8 and 11 are approximately the same. What does this mean about the trading prices on both of those days?

> *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

1. How might those words apply to what you have learned? Why is the author warning readers that a share is not a lottery ticket?

The following stock bar chart depicts the market action for The Washington Post Company during the week of April 28. Use the chart to answer Exercises 2–11.
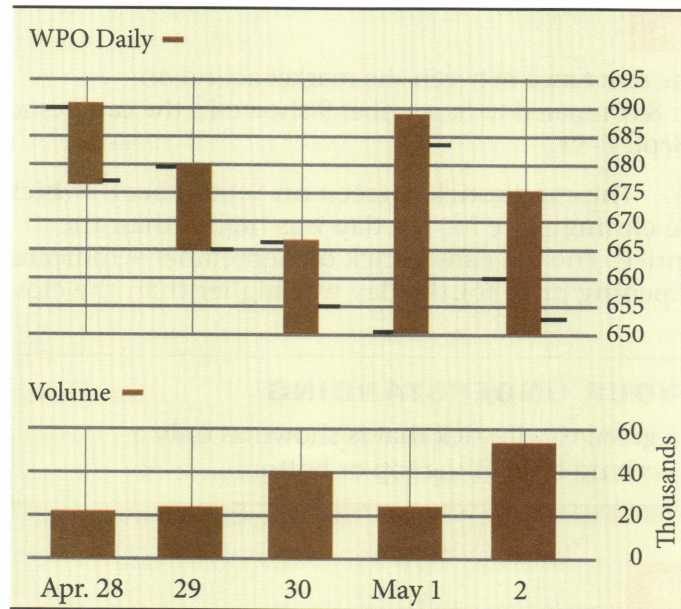
2. On what date did the stock close at a price higher than it opened?

3. What was the day's opening price on the following days?
April 28
April 29
April 30
May 1
May 2

4. What was the day's high price on April 29?

5. What was the day's low price on May 1?

6. What was the day's close on May 2?

7. What was the approximate net change from April 29 to April 30? Express that net change as a monetary amount and as a percent to the nearest tenth.

8. What was the approximate net change from April 30 to May 1? Express that net change as a monetary amount and as a percent to the nearest tenth.

9. Approximately how many shares were traded on April 30?

10. Approximately how many fewer shares were traded on April 28 than on May 2?

11. Suppose that the volume numbers had been listed in hundreds on the table. How would that have changed the labels?

12. Use the following data to construct a stock bar chart for the 5-day period.

Day	Open	Close	High	Low	Volume
1	20.48	20.24	20.50	20.20	58,000,000
2	20.21	20.25	20.30	20.00	52,000,000
3	20.30	20.10	20.34	20.02	42,000,000
4	20.17	20.44	20.45	20.10	50,000,000
5	20.48	20.61	20.65	20.36	50,000,000

13. Use the following data to construct a stock bar chart for the 5-day period.

Day	Open	Close	High	Low	Volume
1	59.75	59.60	60.00	59.22	7,900,000
2	59.15	60.20	60.50	59.15	8,000,000
3	60.00	59.58	60.61	59.55	8,200,000
4	59.55	60.90	60.90	59.37	7,000,000
5	60.87	60.93	61.25	60.79	7,750,000

14. Use the candlestick chart to answer the questions.

   a. On which days were opening prices higher than the closing prices?
   b. On which days were the closing prices higher than the opening prices?
   c. What was the approximate closing price on April 28?
   d. What was the approximate high price on May 1?
   e. What was the difference between the lowest price and the highest price recorded for this time period?
   f. What does the very short line at the bottom of the May 1 candlestick indicate?
   g. Had the chart used white and black candlesticks, which days would be white and which days would be black?
   h. On which consecutive days was the closing price of the first day higher than the opening price of the second day?
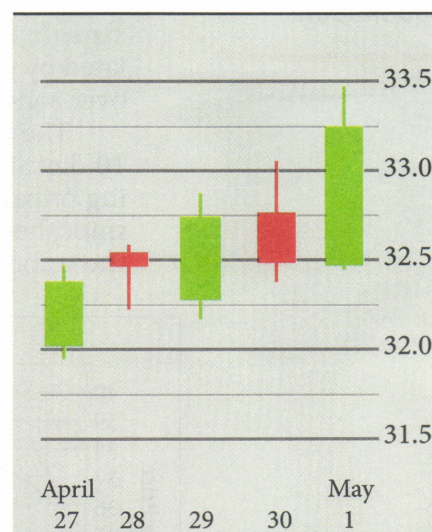
15. Construct a candlestick chart for the information presented in Exercise 12.

16. Construct a candlestick chart for the information presented in Exercise 13.

1-4 Simple Moving Averages

Objectives

- Understand how data is smoothed.
- Calculate simple moving averages using the arithmetic average formula.
- Calculate simple moving averages using the subtraction and addition method.
- Graph simple moving averages using a spreadsheet.

Key Terms

- smoothing techniques
- simple moving average (SMA)
- arithmetic average (mean)
- lagging indicators
- fast moving average
- slow moving average
- crossover

HOW CAN STOCK DATA BE SMOOTHED?

Stock market prices can fluctuate greatly from trade to trade based upon a variety of external factors. You have already seen that the high and low for a day may not necessarily be near the day's opening or closing prices. Those differences often make it difficult to spot trends that are occurring over time. **Smoothing techniques** are statistical tools that allow an investor to reduce the impact of price fluctuations and to focus on patterns and trends. One such technique is known as a **simple moving average (SMA)**. Simple moving averages are calculated by determining the **arithmetic average (mean)** closing price over a given period of time.

The graph shows the daily stock closing prices, 5-day SMA and 10-day SMA over a period of 30 trading days. Notice how the closing prices fluctuated from day to day and the moving average graphs smoothed out that data. The longer the moving average time interval, the smoother the graph appears to be.
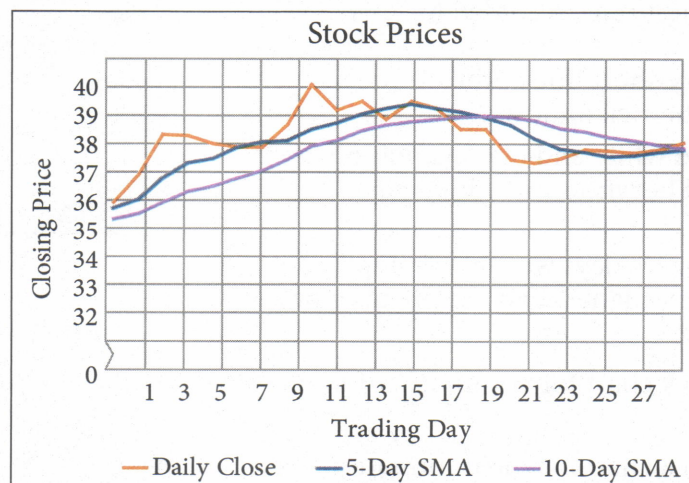
Moving averages are known as **lagging indicators** because they use past data. Investors use simple moving averages when they want to identify and follow a trend in prices.

Stock Prices graph — Closing Price vs. Trading Day, showing Daily Close, 5-Day SMA, and 10-Day SMA.

Recall that the average of a set of numerical data is the sum of the items in that set divided by the number of items. You can determine the average of any number of closing prices, but this gives you little information about trends because you would have nothing to compare the averages to. A better comparison method to use is a simple moving average.

Simple Moving Averages Using the Arithmetic Average Formula

Although simple moving averages can span any length of time, in Example 1 you will find averages by taking closing prices 5 days at a time. Find an average of the prices for each of the 5-day time spans: days 1–5, days 2–6, days 3–7, days 4–8, days 5–9, and days 6–10. Graph the six averages. The graph has a smoother appearance compared to the graph of the closing prices of days 5–10. A moving average graph appears to smooth the fluctuations in closing prices.

EXAMPLE 1

The closing prices for 10 consecutive trading days for a particular stock are shown. Calculate the 5-day SMA and plot both the closing prices and the averages on a graph.

Day	Closing Price
1	35.02
2	35.01
3	34.65
4	36.09
5	35.32
6	35.50
7	35.03
8	35.79
9	37.07
10	36.05

SOLUTION Find the average of the closing prices in groups of five.

Find the SMA using the closing prices from days 1–5.

$$\frac{35.02 + 35.01 + 34.65 + 36.09 + 35.32}{5} = 35.218 \approx 35.22$$

Days 2–6 $$\frac{35.01 + 34.65 + 36.09 + 35.32 + 35.50}{5} = 35.314 \approx 35.31$$

Days 3–7 $$\frac{34.65 + 36.09 + 35.32 + 35.50 + 35.03}{5} = 35.318 \approx 35.32$$

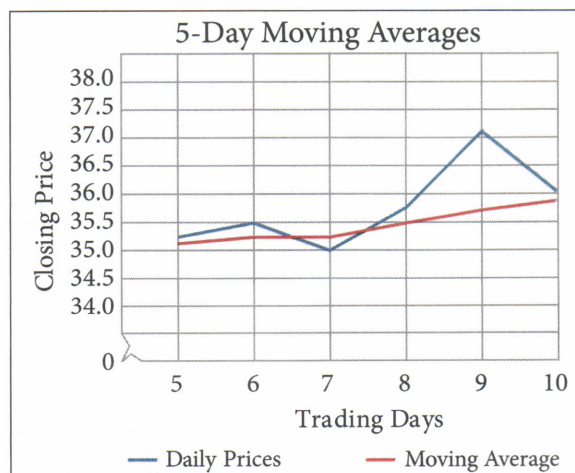Days 4–8 $$\frac{36.09 + 35.32 + 35.50 + 35.03 + 35.79}{5} = 35.546 \approx 35.55$$

Days 5–9 $$\frac{35.32 + 35.50 + 35.03 + 35.79 + 37.07}{5}$$
$$= 35.742 \approx 35.74$$

Days 6–10 $$\frac{35.50 + 35.03 + 35.79 + 37.07 + 36.05}{5}$$
$$= 35.888 \approx 35.89$$

The five consecutive 5-day SMA are $35.22, $35.31, $35.32, $35.55, $35.74, and $35.89.

The graph of the closing prices and the simple moving averages for days 5 through 10 are shown. Notice how the moving averages smooth out the data.

5-Day Moving Averages

— Daily Prices   — Moving Average

Simple Moving Averages Using the Subtraction and Addition Method

The calculation of a simple moving average can be tedious because you have to find the average for each time interval. There is an alternate way to compute the moving average that is simpler.

Suppose you want to determine a 3-day simple moving average for 6 trading days. Let the trading prices for the days be represented by A, B, C, D, E, and F. 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, \quad $122, \quad $120, \quad $119, \quad $124, \quad $128, \quad $126

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

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

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

Use previous average, $\dfrac{A}{4}$, and $\dfrac{E}{4}$. $120.50 - \dfrac{121}{4} + \dfrac{124}{4} = 121.25$

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

Use previous average, $\dfrac{B}{4}$, and $\dfrac{F}{4}$. $121.25 - \dfrac{122}{4} + \dfrac{128}{4} = 122.75$

Use previous average, $\dfrac{C}{4}$, and $\dfrac{G}{4}$. $122.75 - \dfrac{120}{4} + \dfrac{126}{4} = 124.25$

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

Graph Simple Moving Averages Using a Spreadsheet

Simple moving averages are more informative when they are determined over a longer period of time. Often, financial websites and newspapers report long moving average time intervals. These calculations are time consuming if done by hand or even using a calculator. However, if you use a spreadsheet you can get results easily and quickly. The spreadsheet shown lists the closing prices of 30 consecutive days of trading for a particular stock. The 10-day moving averages are calculated in column C and begin on day 10. Cell C11 equals the average of the closing prices on days 1–10.

Most spreadsheets have a sum function, which is used to calculate the sum of amounts in a group of cells. The format for using a sum function varies depending on the spreadsheet software you are using. The format used here is =sum(starting cell:ending cell). The formula in cell C11 that yields the correct average is =sum(B2:B11)/10. The cells have been formatted to show all decimals rounded to two places.

The formula in cell C12 is =sum(B3:B12)/10. Notice that the starting and ending cells in the formula have each shifted down by one cell. Rather than typing this formula repeatedly and changing the cell names used, most spreadsheets have a fill command that recognizes the pattern. To use this command in this spreadsheet select the cells that you want to fill with the formula and apply the fill command. Most spreadsheets allow the user to *fill up, fill down, fill left,* or *fill right.* In this case, you *fill down.* The formula is placed in each selected cell with the cell names automatically adjusted for each row.

	A	B	C
	Day	Closing Price	10-day Moving Average
1			
2	1	35.02	
3	2	35.01	
4	3	34.65	
5	4	36.09	
6	5	35.32	
7	6	35.5	
8	7	35.03	
9	8	35.79	
10	9	37.07	
11	10	36.05	35.55
12	11	36.85	35.74
13	12	38.03	36.04
14	13	38	36.37
15	14	37.76	36.54
16	15	37.66	36.77
17	16	37.66	36.99
18	17	38.3	37.32
19	18	39.48	37.69
20	19	38.72	37.85
21	20	39.01	38.15
22	21	38.48	38.31
23	22	39.01	38.41
24	23	38.8	38.49
25	24	38.19	38.53
26	25	38.2	38.59
27	26	37.3	38.55
28	27	37.2	38.44
29	28	37.33	38.22
30	29	37.61	38.11
31	30	37.57	37.97

=sum(C2:C11)/10

=sum(C3:C12)/10

EXAMPLE 3

Use a spreadsheet to calculate the 5-day SMA of the closing prices for 10 consecutive trading days.

SOLUTION Moving averages lag behind the closing prices, so in cell C6 calculate the average of the closing prices for April 28, 29, 30, May 1 and 2. The formula is =sum(B2:B6)/5.

Next, highlight cells C6 through C11 and apply the fill down command to have the 5-day moving averages appear in the appropriate cells as shown in blue.

|	A	B	C
1	**Day**	**Close**	**Moving Average**
2	28-Apr	29.39	
3	29-Apr	29.27	
4	30-Apr	29.21	
5	1-May	29.70	
6	2-May	29.08	29.33
7	5-May	29.24	29.30
8	6-May	29.40	29.33
9	7-May	28.52	29.19
10	8-May	28.64	28.98
11	9-May	28.99	28.96

■ **CHECK YOUR UNDERSTANDING**

Add column D to the spreadsheet to calculate the 3-day SMA. In what cell do you start? What formula do you use?

Crossovers

Sometimes, investors construct stock charts that depict moving averages for two different intervals. The graph with the shorter time interval is known as the **fast moving average** and the graph with the longer time interval is known as the **slow moving average**. As changes in closing prices occur on a day-to-day basis, the fast moving average will reflect those changes quicker than the slow moving average will.

A **crossover** occurs when a one-time interval moving average graph overtakes another. Crossovers signal that a stock trend reversal might be near. Some say that an investor should consider buying when the fast moving average graph overtakes (rises above) the slow moving average graph. Likewise, an investor might consider selling when the fast moving average graph crosses below the slow moving average graph.

Ford Motor Company

— Close — 7-Day SMA — 21-Day SMA
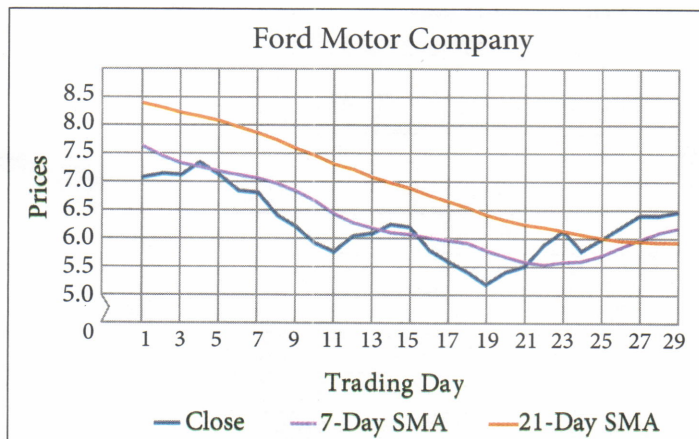
EXAMPLE 4

The graph shows the closing prices for 29 consecutive trading days. It also charts the 7-day and 21-day simple moving averages. What signal might the graphs give an investor?

SOLUTION A crossover occurs on the 27th day. The fast moving average graph rises above the slow moving average graph giving a signal to consider buying the stock.

■ **CHECK YOUR UNDERSTANDING**

Suppose that on the 35th trading day, the 21-day SMA graph rises above the 7-day graph. What might that indicate?

> *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 ten consecutive day closing prices of Sprint Nextel Corp 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 ten consecutive day closing prices for MasterCard Inc 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 ten 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 twelve 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 ten consecutive day closing prices for Toyota Motor 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 ten 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 ten consecutive trading day closing prices for International Business Machines 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 ten consecutive trading day closing prices for Rite Aid Corp listed below.
   $2.65, $2.63, $2.70, $2.63, $2.50, $2.65, $2.66, $2.56, $2.52, $2.37

10. Use a spreadsheet to determine the 7-day SMA for Citigroup Inc.

7-Apr	24.60	14-Apr	22.51	21-Apr	25.03	28-Apr	26.81	5-May	25.75
8-Apr	23.76	15-Apr	22.80	22-Apr	25.12	29-Apr	26.32	6-May	25.87
9-Apr	23.58	16-Apr	23.44	23-Apr	24.63	30-Apr	25.27	7-May	24.48
10-Apr	23.71	17-Apr	24.03	24-Apr	25.76	1-May	25.99	8-May	24.30
11-Apr	23.36	18-Apr	25.11	25-Apr	26.60	2-May	26.39	9-May	23.63

11. Use a spreadsheet to determine the 10-day SMA for Dell Inc.

| 31-Mar	19.92	8-Apr	19.00	16-Apr	18.72	24-Apr	19.14	2-May	19.32
1-Apr	20.33	9-Apr	18.69	17-Apr	19.05	25-Apr	19.11	5-May	19.10
2-Apr	19.95	10-Apr	18.77	18-Apr	19.47	28-Apr	18.87	6-May	19.19
3-Apr	20.12	11-Apr	18.50	21-Apr	19.56	29-Apr	18.97	7-May	18.90
4-Apr	19.53	14-Apr	18.24	22-Apr	19.05	30-Apr	18.63	8-May	18.84
7-Apr	19.23	15-Apr	18.28	23-Apr	19.05	1-May	19.08	9-May	19.03

12. Use a spreadsheet to determine the 2-day, 3-day, and 5-day SMA.

31-Mar	440.47	8-Apr	467.81	16-Apr	455.03	24-Apr	543.04	2-May	581.29
1-Apr	465.71	9-Apr	464.19	17-Apr	449.54	25-Apr	544.06	5-May	594.90
2-Apr	465.70	10-Apr	469.08	18-Apr	539.41	28-Apr	552.12	6-May	586.36
3-Apr	455.12	11-Apr	457.45	21-Apr	537.79	29-Apr	558.47	7-May	579.00
4-Apr	471.09	14-Apr	451.66	22-Apr	555.00	30-Apr	574.29	8-May	583.01
7-Apr	476.82	15-Apr	446.84	23-Apr	546.49	1-May	593.08	9-May	573.20

13. The stock chart shows the 3-day and 10-day SMA for 20 consecutive trading days of Sony Corp stock. Identify the crossovers and discuss the implications.
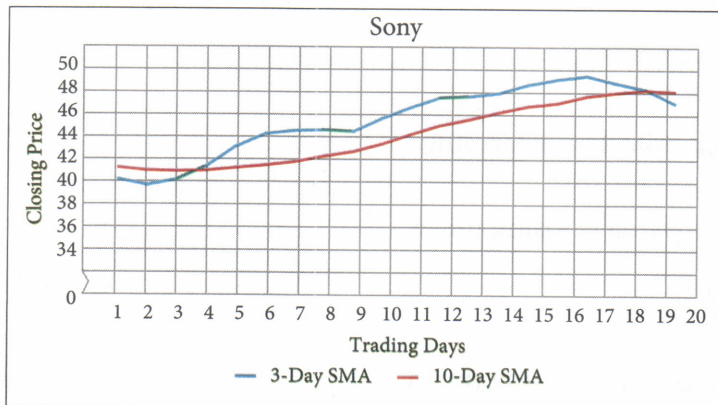
14. The stock chart shows the 3-day, 5-day, and 10-day SMA for 16 consecutive trading days of General Electric Co stock. Examine days 6–16. Identify the crossovers and discuss the implications.
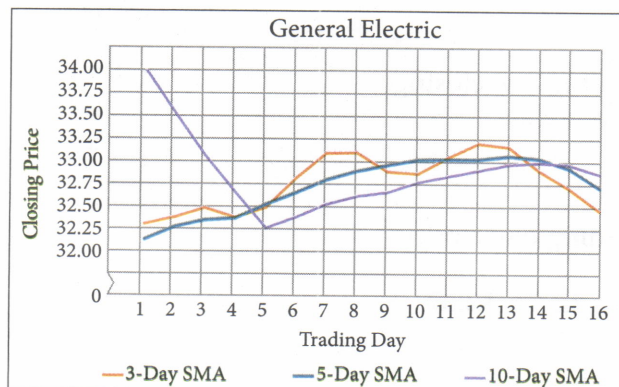
15. Use a spreadsheet to calculate the 2-day and 5-day SMA for ten consecutive day closing prices of Yahoo! Inc. Graph the closing prices and averages.

21-Apr	28.55	1-May	26.81
22-Apr	28.54	2-May	28.67
23-Apr	28.08	5-May	24.37
24-Apr	27.30	6-May	25.72
25-Apr	26.80	7-May	25.64
28-Apr	26.43	8-May	26.22
29-Apr	27.36	9-May	25.93
30-Apr	27.41		