

Spend Wisely

- 5.1 Sales Tax
- 5.2 Sales Receipts
- 5.3 Unit Prices
- 5.4 Comparative Shopping
- 5.5 Personal Internet Access

Statistical Insights

State Sales Tax Rates
January 1, 2001

| State | Sales/Use Tax, % | State | Sales/Use Tax, % | State | Sales/Use Tax, % |
|-------------|------------------|----------------|------------------|----------------|------------------|
| Alabama | 4 | Louisiana | 4 | Ohio | 5 |
| Arizona | 5 | Maine | 5 | Oklahoma | 4.5 |
| Arkansas | 5.125 | Maryland | 5 | Pennsylvania | 6 |
| California | 6 | Massachusetts | 5 | Rhode Island | 7 |
| Colorado | 2.9 | Michigan | 6 | South Carolina | 5 |
| Connecticut | 6 | Minnesota | 6.5 | South Dakota | 4 |
| Florida | 6 | Mississippi | 7 | Tennessee | 6 |
| Georgia | 4 | Missouri | 4.225 | Texas | 6.25 |
| Hawaii | 4 | Nebraska | 5 | Utah | 4.75 |
| Idaho | 5 | Nevada | 6.5 | Vermont | 5 |
| Illinois | 6.25 | New Jersey | 6 | Virginia | 3.5 |
| Indiana | 6 | New Mexico | 5 | Washington | 6.5 |
| Iowa | 5 | New York | 4 | West Virginia | 6 |
| Kansas | 4.9 | North Carolina | 4 | Wisconsin | 5 |
| Kentucky | 6 | North Dakota | 5 | Wyoming | 4 |

Note: Alaska, Delaware, Montana, New Hampshire and Oregon have no statewide sales taxes.

Use the data shown above to answer each question.

1. How many states listed have a statewide tax that is greater than 6.5%? Name each state.
2. What is the average statewide tax percent for the states listed?



NetCheck

Get Assistance—Shopping Online Smartly

Shopping online is changing the face of the retail marketplace. Customers may purchase goods using their personal computers in addition to shopping in local stores, ordering by mail, or using the telephone to buy from a catalog or television merchandiser. Online purchases require the use of a credit card and access to the Internet.

Care must be taken when using a credit card to make online purchases. You should only purchase from Internet websites that offer a secure checkout system or will allow you to establish an account or will ship goods C.O.D. Many websites use special encryption software to safeguard your credit card number.

The Internet is an excellent source for getting information about a product, checking its availability in your area, and locating a source with the best price. Remember that the online price of an item may not include shipping costs that are charged separately. Consider the total cost of the purchase, before making a decision to buy online. Also, if you need the item to arrive very quickly, the cost of overnight shipping may make the overall cost much greater than buying the item directly from another source.

Get Information—Taxing Online Purchases

Many online sellers have a billing system that allows sales tax to be collected from customers if required by the state in which online customers live. The sellers collect the correct amount of tax and forward it to the state tax office.

If the seller does not collect state sales taxes, customers still have a responsibility to pay the sales taxes due their state. This may be done by reporting the amount due on a state income tax return or by using some other required process.

RATE YOUR KNOWLEDGE on a scale of 1–10

(10 being the highest) about

- unit pricing
- getting the best deal for your money
- choosing an Internet provider

5.1 Sales Taxes

GOALS

- Calculate sales tax on purchases
- Calculate sales taxes when some items are not taxed

Start Up

Are some items excluded from sales taxes in your city or state? Why might some items be taxed and others not? How do sales taxes affect what and where people buy items?

Math Skill Builder

Review these math skills and solve the exercises.

- ① Add money amounts.

Find the sum. $\$1.09 + \$98.81 + \$431.99 = \531.89

1a. $\$45.98 + \$12.87 + \$319.08$

1b. $\$512.44 + \$5.89 + \$29.98$

- ② Multiply money amounts by percents.

Rewrite the percent and find the product. $4\% \times \$24 = 0.04 \times \$24 = \$0.96$

2a. $8\% \times \$56$

2b. $4.3\% \times \$84.89$

2c. $8.25\% \times \$15.99$



■ Sales Taxes on Purchases

Many states, cities, and counties charge a sales tax on certain items you buy. Sales tax is a percentage of the price of an item or a percentage of the total of all taxable items. Sellers collect the sales tax from consumers for the government. Sales tax rates differ from community to community and state to state.

$$\text{Sales Tax Rate} \times \text{Price of Item} = \text{Sales Tax}$$

Sales tax is rounded to the nearest cent. If more than one tax is charged, the tax rates are often combined into one rate. For example, if there is a state tax of 5% and a city tax of 3%, the tax collected is 8%. The buyer pays the price of the item plus the sales tax.

$$\text{Price of Item} + \text{Sales Tax} = \text{Total Cost of Item}$$

EXAMPLE 1

Ellie Kramer purchased a chain saw priced at \$285.99. The state in which she lives charges a 6.5% sales tax on purchases. What sales tax is paid and what is the total cost of the chain saw to Ellie?

SOLUTION

Multiply price by rate as a decimal.

$$6.5\% = 0.065; 0.065 \times \$285.99 = \$18.58935, \text{ or } \$18.59$$

$$\$285.99 + \$18.59 = \$304.58 \quad \text{price} + \text{sales tax}$$

■ CHECK YOUR UNDERSTANDING

- A. Software that turns your computer into a phone system sells for \$89.99. You buy it in a state that charges a 4.5% sales tax. What is the sales tax paid? What is the total cost of the software?
- B. Jane Ellis buys an exercise bike for \$369.89 in a state with a 3% sales tax and in a city with a 1.8% sales tax. How much sales tax did she pay on the bike? What total amount did she pay?

■ Nontaxable Items

Some cities and states do not tax certain items, such as food, prescription drugs, and charges for labor, or services. To find the sales tax when some items are not taxable, first find the **subtotal** of all taxable items. Then calculate the sales tax on that portion of the bill only. To find the total bill, find the subtotal of all nontaxable items and add the subtotals of nontaxable and taxable items, and the sales tax.

MATH TIP

A **subtotal** is a partial total.

$$\text{Sales Tax} = \text{Sales Tax Rate} \times \text{Subtotal of Taxable Items}$$

$$\text{Total} = \text{Subtotal of Taxable Items} + \text{Subtotal of Nontaxable Items} + \text{Sales Tax}$$

EXAMPLE 2

A service station mechanic took 3 hours to repair a car. The service charge was \$65 an hour. Two parts were replaced at a cost of \$117.98 and \$49.39. The state has a sales tax of 4% charged on goods, but not on labor. Find the total bill.

SOLUTION

$$\$65 \times 3 = \$195 \quad \text{cost of nontaxable labor}$$

$$\text{Add the cost of the taxable parts: } \$117.98 + \$49.39 = \$167.37$$

Multiply the sales tax rate by the subtotal of taxable items

$$\$167.37 \times 0.04 = \$6.694, \text{ or } \$6.69 \quad \text{sales tax}$$

Add to find the total bill.

$$\$195 + \$167.37 + \$6.69 = \$369.06 \quad \text{nontaxable labor} + \text{taxable items} + \text{sales tax}$$

■ CHECK YOUR UNDERSTANDING

- C. A neighbor replaced her hot water heater with an energy-efficient one. She paid \$309.59 for the heater and \$56 more to have it installed. A state tax of 5.25% was added to the cost of the heater but not the installation. What was the sales tax and what was the total cost of the heater to the neighbor?
- D. A handyman installed 8 sections of cedar fencing in Jose Velez's back yard. Jose was charged \$462.53 for the sections and \$225 for the installation. Jose's state has a sales tax rate of 6.75% on goods but not labor. What sales tax did Jose pay? How much was his total bill for the fence?

Wrap Up

Look back at the Start Up questions in this lesson. Many cities and states do not apply a sales tax to prescription drugs and food. Prescription drugs and food are often not taxed to reduce the cost of these items to people with limited incomes. If people live near city or state borders, they may cross these borders to avoid paying sales taxes. They may also try to avoid sales taxes by buying goods over the Internet.

WORKPLACE WINDOW

TELEMARKETERS work for an industry that can reach almost every household with a telephone. Telemarketers make phone calls to individuals or businesses to sell a product or service. Like other salespeople, telemarketers must know a lot about the product or service they sell. Some telemarketers, such as those who sell extended warranties on an appliance the customer owns, take orders directly from customers. Other telemarketers only determine the potential customer's interest in a product and arrange a time for a salesperson to call. This may be done for a product such as replacement windows that requires measurements and a personal inspection by a trained salesperson.

1. What education and experience are required to be a successful telemarketer?
2. What are the job prospects for interested individuals?
3. What types of products or services are often sold using telemarketers?



EXERCISES

Find the sum.

1. $\$34.89 + \$1.97 + \$211.03$

2. $\$108.67 + \$0.98 + \$19.98$

Find the product.

3. $\$45.39 \times 4.9\%$

4. $\$1,509.38 \times 4\frac{1}{4}\%$

5. Rachel Seyval wants to buy a computer printer priced at \$275.89. If the state sales tax is 5%, what sales tax will she pay?
6. Where Tony Berio lives, the state sales tax is 5.5% and the city sales tax is 2%. What amount of sales tax must he pay on a \$167 purchase?

Find the sales taxes on each of the items below.

| | Item | Price | Sale Tax Rate | Sales Tax |
|-----|------------------|------------|---------------|-----------|
| 7. | Computer scanner | \$99.99 | 5.8% | |
| 8. | Garden tractor | \$1,568.89 | 3.5% | |
| 9. | Golf club set | \$635.18 | 2.9% | |
| 10. | Antique dresser | \$498.89 | 4.6% | |

11. **BEST BUY** Mona Allen wants to buy a bed that costs \$695. The city sales tax rate is 7%. In a nearby city the sales tax rate is 4%. How much less would the bed cost if Mona bought it in the nearby city?
12. Rollie Gusewelle has his auto dealer install auto seat covers on his used car. The seat covers costs \$189.99 and installation another \$45.89. The state sales tax rate is 4.7% but is not applied to labor. What is the total cost of the seat covers to Rollie?

LaVernn Johnson had a new 36 square yard wall-to-wall rug installed in her home. The rug cost \$15.99 a square yard, the padding cost \$3 a square yard, and the rug was installed for \$4 a square yard. LaVernn's state sales tax rate is 4.9%, and it is not applied to labor.

13. What was the cost of the carpeting and padding?
14. What was the cost of the installation?
15. What was the sales tax?
16. What was the total cost of the purchase?
17. **CRITICAL THINKING** Some people oppose sales taxes because they believe they are unfair to those with limited incomes. Can you think of a reason why they think that sales taxes are unfair to the "poor" and fair to the "rich"? Others think they are fair. Can you think of an argument that would support sales taxes as fair to all?

MIXED REVIEW

18. $\$5,297.12 \div 100$
19. $\$91.78 \div 1,000$
20. $\frac{3}{4} \times \frac{1}{8}$
21. $\frac{2}{3} \times \frac{5}{6}$
22. Rewrite $\frac{3}{8}$ as a decimal.
23. Rewrite $1\frac{3}{4}$ as a decimal.
24. Rewrite 4.978% as a decimal.
25. Rewrite 0.0589% as a decimal.
26. Divide 4,688 by 59 to the nearest hundredth.
27. Tyrone Bingham signed a 9-month, noninterest-bearing promissory note for \$4,300 that he discounted at his bank at 12%. What were the net proceeds that Tyrone received?
28. Zena Cranshaw's previous credit card balance was \$289.14. Her credit card statement for May also showed a payment of \$150 and a purchase of \$98.99. The card company's APR is 18% and it uses the adjusted balance method to find the finance charge. What was Zena's finance charge for the month?
- Yancy Guzmone saves money for his son's college fund. The account has a balance of \$400 on June 1. His bank pays 4% compound interest monthly on the account. He makes no deposits or withdrawals.**
29. What interest will he earn at the end of the first month?
30. What interest will he earn at the end of the second month?



5.2 Sales Receipts

GOALS

- Calculate extensions
- Calculate sales slip totals

Start Up

Many sales slips that were paid by credit card no longer display the whole credit card number. Online ordering computer screens also frequently do not display the whole credit card number you punch in. Only the last four digits of the card number are shown. Why have companies chosen not to display the whole number?

Math Skill Builder

Review these math skills and solve the exercises that follow.

- 1 Rewrite percentages as decimals.**
Rewrite as a decimal. $5.7\% = 0.057$
1a. 3.9% 1b. 4.7% 1c. 6.25% 1d. 7.75%
- 2 Add money amounts.**
Find the sum. $\$12.89 + \$35.99 + \$19.98 = \68.86
2a. $\$87.79 + \$2.19 + \$35.71$ 2b. $\$7.08 + \$1.89 + \$3.99$
- 3 Multiply money amounts by decimals. Round to the nearest cent.**
Find the product. $\$129.89 \times 0.056 = \7.273 , or $\$7.27$
3a. $\$452.98 \times 0.065$ 3b. $\$299.18 \times 0.046$

■ Sales Slip Extensions

Most store employees give customers a *cash register receipt*, or *sales slip*, after a transaction is completed. Customers may use these slips to check that all the items bought were received and that the prices and calculations were correct. Sales slips can also be used as expense records for business travelers or serve as proofs of purchase if items are returned.

Like the sales slip shown on the next page, most sales slips show the

- number of units, or quantity, and a description of each item.
- *unit price*, or the price of one item or group of items treated as one. For example, a ream of paper is treated as one unit even though each ream contains 500 sheets of paper.

- **extension**, or the unit price multiplied by the quantity of each item. For example, the amount, \$9.57 on the sales slip, is the extension of 3 reams of printer paper at \$3.19 for each ream.
- **subtotal**, or the sum of the extensions.
- **sales tax**.
- **total sale**, or the sum of the subtotal and the sales tax.

The total price of each quantity on a sales slip is the extension. To find the extension of an item, multiply the quantity by the unit price.

Extension = Quantity × Unit Price

“At” or “@” means the price of a single unit. For example, 1 dozen pens @ \$4.99 means 12 pens are priced at \$4.99 in a group of one dozen. But a price of “3 dozen pens, \$14.97” means that the price is \$14.97 for all 3 dozen pens.

EXAMPLE 1

Find the product of the quantities and unit prices below.

- 12 batteries @ \$0.75
- 3 dozen batteries @ \$3
- 2 M (thousand) light bulbs @ \$450
- 2 C (hundred) ergonomic mouse pads @ \$358

SOLUTION

- $12 \times \$0.75 = \9 cost of batteries
- $3 \times \$3 = \9 cost of batteries in groups of a dozen
- $2 \times \$450 = \900 cost of light bulbs in groups of 1,000
- $2 \times \$358 = \716 cost of mouse pads in groups of 100

CHECK YOUR UNDERSTANDING

- You can buy file folders in boxes of 100 for \$8.99. If you bought 600 file folders, what is the price?
- Julie Firsch buys 300 fancy desk calendars to give to her clients as gifts. The calendars are priced at \$85.99 per C. What was the total price of the calendars?



| COMPUTER VILLAGE | | | | |
|---|--------------------------------|--|-----------------------------------|---------------------------|
| 2401 Barksdale Road, San Diego, CA 92119-2401 619-555-3900 | | | | |
| SOLD TO: <u>Calvin Thomas</u> | | | STREET: <u>398 Grimbel Avenue</u> | |
| DATE: <u>May 15</u> 20-- | | CITY, STATE, ZIP: <u>San Diego, CA 92104</u> | | |
| SOLD BY: <u>TJ</u> | CASH: <input type="checkbox"/> | CHARGE: <input checked="" type="checkbox"/> | C.O.D.: | DELIVERY BY: <u>Taken</u> |
| QUANTITY | DESCRIPTION | | UNIT PRICE | AMOUNT |
| <u>3 boxes</u> | <u>Printer paper</u> | | <u>31.99</u> | <u>95.97</u> |
| <u>1</u> | <u>Speaker set</u> | | <u>28.98</u> | <u>28.98</u> |
| <u>1 box</u> | <u>Zip diskettes</u> | | <u>98.57</u> | <u>98.57</u> |
| Everything You Ever Wanted in Electronics! | | | SUBTOTAL | <u>223.52</u> |
| | | | SALES TAX | 7.5% <u>16.76</u> |
| | | | TOTAL | <u>240.28</u> |

PROBLEM SOLVING TIP

Estimate your extensions before finding the exact amounts. Compare the exact amounts to the estimates to see if the exact amounts are reasonable.

■ Sales Slip Totals

Sales slip totals are found by adding the extensions to get the subtotal. If there is a sales tax and it is applied to all items sold, the tax rate is multiplied by the subtotal to find the tax amount. Then the subtotal and tax amount are added to find the total amount of the sales slip.

Subtotal = Sum of Extensions

Sales Tax Amount = Subtotal \times Sales Tax Rate

Total of Sales Slip = Subtotal + Sales Tax Amount

To simplify matters, all items sold in this lesson will be subject to sales taxes.

BUSINESS TIP

Items bought in large quantities may be priced by the gross (12 dozen), hundred (C), thousand (M), hundred pounds or hundredweight (cwt), and ton (T).

EXAMPLE 2

A shopper bought 3 pairs of gloves @ \$15.89 and 2 pair of shoes @ \$78.98. There was a state sales tax of 4.75%. What was the total of the cash register receipt?

SOLUTION

Multiply the quantities by the prices to find the extensions.

$$3 \times \$15.89 = \$47.67 \qquad 2 \times \$78.98 = \$157.96$$

Add the extensions to find the subtotal for the sale.

$$\$47.67 + \$157.96 = \$205.63 \quad \text{subtotal}$$

Find the sales tax.

$$\$205.63 \times 0.0475 = \$9.77 \quad \text{sales tax}$$

Add the subtotal and sales tax.

$$\$205.63 + \$9.77 = \$215.40 \quad \text{receipt total}$$

CALCULATOR TIP

To find the subtotal: press the **[M+]** key after finding each extension. To display the subtotal press the **[MR/C]** key. Multiply the subtotal in the display by the sales tax rate and press **[M+]**. Pressing **[MR/C]** now displays the total of the sales slip. Clear the memory by pressing the **[MRC]** again before starting the next problem.

■ CHECK YOUR UNDERSTANDING

- C. Alexis Bakov bought 3 boxes of recycled kraft envelopes @ \$3.89 and 5 boxes of recycled kraft clasp envelopes @ \$5.79. The state sales tax rate was 3.85%. What was the sales slip total?
- D. Sonia Alvarez bought 2 doz. team T-shirts @ \$139.89 and 2 boxes of baseball caps @ \$89.99 for the Little League team she manages. There was a state sales tax of 5% and a city sales tax of 2.5%. What was the cash register receipt total?

Wrap Up

People often fail to safeguard sales slip. They are commonly left at the gasoline pump and dropped on store floors. This carelessness allowed thieves to steal the slips and use the credit card numbers. In the case of online ordering systems, displaying x's for all but the last four numbers prevents passersby from obtaining the number.

COMMUNICATION

Use the Web to find the city sales tax rates in your area and bordering areas. Make a chart displaying the state sales tax rates, the city sales tax rates, and the combined sales tax rates. Compare the state and city with the highest sales tax rate to the state and city with the lowest. Prepare a report that includes your charts. The report should describe possible reasons why the states and cities differ so much in their sales tax rates.

EXERCISES

Rewrite as a decimal.

1. 4.85% 2. 6.25% 3. 2.9% 4. 7.5%

Find the sum.

5. $\$35.29 + \$191.56 + \$3.12$ 6. $\$29.58 + \$4.56 + \$514.16$

Find the product.

7. $\$458.29 \times 6.3\%$ 8. $\$280.12 \times 7.75\%$

Find the extension for each purchase.

9. 5 M @ \$118.98 10. 3 doz. @ \$76.12
11. 6 reams @ \$42.89 12. 12 C @ \$12.99
13. 8 tons @ \$65.21 14. 25 sets, \$213.78

15. Chad Lauer bought 3 doz. golf tees @ \$2.19 and 4 doz. golf balls @ \$19.99. The city sales tax was 6%. What was the sales slip total?

16. Frieda Hausen purchased 6 tons of sand @ \$42.88 and 5 cubic yards of mulch @ \$28.58. The state sales tax was 4.5%. What was the cash register receipt total?

Bob Jeffries bought these items at an office supply store:

2 doz. pencils @ \$1.99, 8 boxes of cellophane tape @ \$5.99, 3 cartons of envelopes @ \$9.83. The store applied a 7.2% state sales tax to the subtotal.

17. What was the subtotal?
18. What was the state sales tax amount?
19. What was the total of the sales slip?
20. **BEST BUY** At a discount store in state A, you can buy 3 doz. antivirus programs @ \$191.89. The state has a sales tax rate of 6.3%. At a department store in the adjoining state B, you can buy 3 doz. of the same programs @ \$180.19. That state has a sales tax rate of 7.75%. In which state will the sales slip total be lower?



MIXED REVIEW

21. Divide 54.972 by 3.4 to the nearest thousandth.
22. Estimate the product of 32×109 .
23. $\frac{5}{8} \div \frac{1}{2} =$
24. 18. Rewrite 0.05 as a fraction.
25. 22 is 25% of what amount?
26. Maude Regan began the day with \$23.98 in cash. During the day she received \$20 from a friend to repay a loan. Maude spent these amounts during the same day: \$3.78, \$2.19, \$0.88, and \$15.45. How much cash did she have at the end of the day?
27. On July 31, LaVonn Dugan's check register balance was \$742.16. When she balanced her account, she had not recorded a service charge of \$4.50, a deposit of \$37.50, and a check for \$9.15. Find her correct check register balance.
28. Ta-pei Han's taxable income last year was \$73,840. His state's income tax rate is 4.7% of taxable income. The city in which he works also applies an income tax of 2% on taxable income earned in the city. What total state and city income taxes did Ta-pei pay last year?
29. Carlita Renoso's average daily credit card balance for July was \$208.37. Her credit card company charged her interest at an annual percentage rate of 18% on the balance. How much interest did Carlita pay on her credit card balance?
30. Esmat Hussein wants to buy a set of videos on the Civil War priced at \$75.89. If the state sales tax is 3%, what total amount will he pay for the videos?
31. A washing machine sells for \$562 in a state that charges a 5.4% sales tax and in a city that charges a 2% sales tax. What is the total cost of the washing machine?
32. Ed Smoller is paid \$0.95 for every framed picture he assembles. He assembles 50 on Monday, 54 on Tuesday, 53 on Wednesday, and 49 on Thursday. How many pictures must he assemble on Friday to average 55 pictures a day?
33. The senior class of Ekersville High School ran a dart game at the town's 3-day homecoming event. The class collected \$250.50 on Friday, \$242.75 on Saturday, and \$224.25 on Sunday. What was the average amount collected by the class each day?
34. A salesperson is paid 3% commission on all sales and 5% commission on sales over \$10,000 in a week. Last week the salesperson had sales of \$13,568. What was the salesperson's total commission for the week?
35. Yoko Mari's tax return last year showed gross income of \$23,412 and adjustments to income of \$1,690. What was Yoko's adjusted gross income last year?

5.3 Unit Prices

Goals

- Calculate and compare unit prices
- Calculate unit prices from group prices

Start Up

You can buy Product A in a 12-oz. package that sells for \$2.99 and competing brand, Product B, in a $1\frac{1}{2}$ lb. package that sells for \$4.59. Describe two ways that you can compare the prices of these products.

Math Skill Builder

Review these math skills and solve the exercises that follow.

- ① **Subtract** money amounts, and round to the nearest cent.
Find the difference. $\$0.587 - \$0.438 = \$0.149$, or $\$0.15$

1a. $\$2.56 - \2.39

1b. $\$0.946 - \0.813

1c. $\$4.12 - \3.78

- ② **Divide** money amounts by whole numbers and decimals.
Find the quotient. $\$2.99 \div 4.6 = \0.65

2a. $\$4.99 \div 6.3$

2b. $\$1.39 \div 6.2$

2c. $\$21.87 \div 10.5$

■ Unit Price Comparisons

Many items are packaged in ways that make it difficult to compare them easily with competing brands. For example, one product may be packaged in an 8-oz jar while another brand uses a 12-oz jar.

To help shoppers compare the costs of products, many stores post unit prices on their shelves. The **unit price** is the price of one item or one measure of the item. It may be an ounce, a pound, a quart, a dozen, a hundred feet, or some other measure. If unit prices are not posted, you have to calculate them to compare the costs.

MATH TIP

1 lb = 16 oz
1 T = 2,000 lb
1 ft = 12 in.
1 yd = 3 ft
1 qt = 2 pt
1 gal = 4 qt

EXAMPLE 1

Gelo toothpaste costs \$1.28 for a 6-oz tube. GloWite toothpaste costs \$1.99 for a 4.6-oz tube. Which brand costs more per ounce? How much more?

SOLUTION

Divide Gelo price by 6 to find price per ounce: $\$1.28 \div 6 = \0.213

Divide GloWite price by 4.6 to find price per ounce: $\$1.99 \div 4.6 = \0.433

Subtract the per-ounce cost of Gelo from the per-ounce cost of GloWite.

$$\$0.433 - \$0.213 = \$0.22 \text{ difference in cost per ounce}$$

Dividing prices (\$1.99) by units (4.6) may not result in an even number of cents. To compare the unit price of products, it is usually sufficient to round off the unit price to the nearest tenth of a cent (\$0.433).

■ CHECK YOUR UNDERSTANDING

- A. A store sells an 18-oz. box of National Mills corn flakes for \$3.29 and a 24-oz. box of Keller's corn flakes for \$3.99. Which box sells for less per ounce? How much less per ounce?
- B. You can buy a package of four D batteries for \$5.99 or a package of two D batteries for \$3.49. Which package costs less per battery? How much less per battery?



■ Group Pricing

Stores may have one price for a single unit and another price for a group of two or more units. For example, soup may be sold for 89¢ a can or 3 cans for \$2.60. If you buy 3 cans, you pay less than 87¢ a can ($\$2.60 \div 3 = \$0.86 \frac{2}{3}$). In this way, vendors encourage consumers to buy more of their products.

To compare prices of items priced by the group, find their unit price by dividing the group price by the number of units in the group. If there is a fraction of a cent left over, *round up*, or count it as a whole cent.

EXAMPLE 2

Corn is selling at 3 cans for \$1. What is the unit price of a can of corn?

SOLUTION

Divide the group price by the number of units to find the price for one unit.

$$\$1 \div 3 = \$0.333, \text{ or } \$0.34 \text{ price of one can of corn}$$

■ CHECK YOUR UNDERSTANDING

- C. A store is selling 3 oranges for \$0.97. What is the price of one orange?
- D. At a sale, shirts are being sold at 5 for \$53. What is the sale price per shirt?

Wrap Up

Look again at the Start Up question at the beginning of this lesson. You could compare the products by stating the price of Product A in terms of pounds or by stating the price of Product B in terms of ounces.

COMMUNICATION

Prepare a list of types of units in which items are sold, such as dozen, ream, and gross. Consider the following types of retail stores: lumber yard, hardware store, grocery store, drugstore, garden or landscaping firm, and office products store. For each type of unit you find, provide one example and the type of store where used. Organize your list to make finding a type of unit easier.

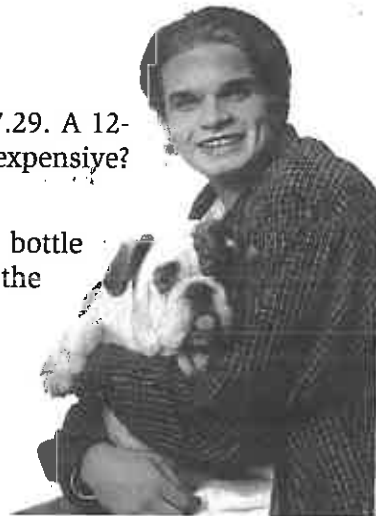
EXERCISES

Find the difference or quotient.

1. $\$29.16 - \24.09
2. $\$1.45 - \1.34
3. $\$0.68 - \0.49
4. $\$3.98 \div 7.3$
5. $\$12.99 \div 18.5$
6. $\$0.98 \div 3.5$

Find the unit price. Round up to the next higher cent.

7. 4 batteries for \$5.99
8. 3 rolls of film for \$12.99
9. 3 large cans of dog food for \$2.00
10. 5 cans of tuna for \$2.19
11. 16-oz box of dog treats for \$1.79
12. 5 suit hangars for \$2.29
13. 5 tons of sand for \$104.99
14. 46-oz. can of apple juice for \$1.99
15. 50-oz. bottle of liquid detergent for \$3.49
16. 10 cubic yards of garden mulch for \$64.99
17. 5 M copies of 1-page reprint for \$25.80
18. **BEST BUY** A 13-oz. dispenser of Coral moisturizing lotion sells for \$7.29. A 12-oz. dispenser of Dino moisturizing lotion sells for \$6.99. Which is less expensive? How much less expensive per ounce?
19. **BEST BUY** You can buy a bottle of 250 Vitamin C pills for \$11.99 or a bottle of 100 Vitamin C pills of a competing brand for \$5.99. Which cost less, the larger or the smaller bottle? How much less per pill?



MIXED REVIEW

20. Divide \$35,109 by 1,000.
21. Divide 4.109 by 100.
22. Todd Lyle worked Mon. through Fri. from 8:30 A.M. to 5:00 P.M. with an hour off for lunch. He is paid \$11.34 an hour. Find his earnings for the week.
23. Adele Mirsham earns a salary plus commission. Her total earnings last year were \$47,600, of which \$16,800 was salary. Her total sales last year were \$616,000. What was her rate of commission?
24. Andy Vane's check register balance on June 1 was \$811.16. He found a check for \$17 was recorded in the register as \$11.60 and he had not recorded a service charge of \$6.50 or a deposit of \$32.74. Find Andy's correct check register balance.

5.4 Comparative Shopping

GOALS

- Compare prices at sales, at different stores, and in different amounts
- Compare the cost of rental options
- Compare the cost of renting vs. buying

Start Up

You can buy a set of floor mats for a car for \$89.99 at a discount store in a nearby city or for \$98.88 at a local auto supply store. Why might you choose to buy the floor mats locally, even at a higher cost?

Math Skill Builder

Review these math skills and solve the exercises that follow.

- ① **Multiply** dollar amounts by whole numbers and decimals.
Find the product. $12 \times \$0.95 = \11.40

1a. $\$1.23 \times 144$

1b. $\$45.99 \times 3$

1c. $\$1.89 \times 5.2$

- ② **Subtract** dollar amounts.
Find the difference. $\$45.99 - \$39.89 = \$6.10$

2a. $\$1.49 - \1.28

2b. $\$25.89 - \19.88

- ③ **Divide** dollar amounts by whole numbers and decimals and round the quotients to the nearest cent.
Find the quotient. $\$2.98 \div 5.2 = \0.573 , or $\$0.57$

3a. $\$3.89 \div 5$

3b. $\$12.79 \div 6.2$

- ④ **Find** what percent one number is of another.
Find what percent $\$2.40$ is of $\$12.80$. $\$2.40 \div \$12.80 = 18.75\%$

4a. $\$15.80 \div \63.20

4b. $\$3.90 \div \9.75

■ Prices at Sales, Different Stores, and in Different Amounts

To save money, you should know how to calculate the amount you can save by buying in large amounts or at discount stores. Many of the items you buy come in different sizes and at different prices. Unit prices allow you to compare prices and identify the lowest-priced item.

EXAMPLE 1

How much will you save by buying a case of motor oil at All-Mart's Discount Store for \$19.99 rather than buying it at Power Auto Supply for \$27.98?

SOLUTION

$\$27.98 - \$19.99 = \$7.99$ Subtract the lower price from the higher price.

■ CHECK YOUR UNDERSTANDING

- A. How much is saved by buying a case of brownie mixes for \$15.67 rather than a case for \$16.29?
- B. How much is saved by buying a pack of 10 T-shirts for \$33.49 rather by buying two packs of 5 T-shirts for \$18.25 each?

EXAMPLE 2

How much will you save by buying 12 rolls of film now at \$3.98 rather than buying 1 roll at \$4.39 at a time?



SOLUTION

Multiply the quantity by the unit price to find the total price of buying the specified number of products.

$$12 \times \$3.98 = \$47.76 \quad \text{cost at } \$3.98 \text{ each}$$

$$12 \times \$4.39 = \$52.68 \quad \text{cost at } \$4.39 \text{ each}$$

Subtract the lower total price from the higher total price.

$$\$52.68 - \$47.76 = \$4.92$$

Amount saved by buying the larger quantity is \$4.92.

■ CHECK YOUR UNDERSTANDING

- C. A 53.7 square foot roll of Country paper towels costs \$1.49. An 80.6 square foot roll of the same paper towels costs \$1.89 on sale. Which is less expensive per square foot, the small or large roll?
- D. After the holidays you can buy boxes of greeting cards @ 2 for \$32. The same boxes sold during the season for \$23.99 each. If you bought 6 boxes after the holidays, how much would you save?

■ Rental Options

You can rent items you do not use often or only need for a short amount of time. For example, since a homeowner is not likely to refinish the floors in a home very often, renting a floor sander instead of buying it makes sense.

Rental companies offer different rental rates for different time periods, such as hourly, daily, weekly, and monthly. To determine the best rental option, you should know how long you will need the item and then find the most economical rate.

EXAMPLE 3

A floor sander can be rented for \$7 an hour or \$40 a full day. If you estimate that it will take you 6 hours to sand the floors in two rooms, which rate would be the least expensive?

SOLUTION

Calculate the cost of renting the item by the hourly rate.

$$6 \text{ hours} \times \$7 = \$42 \text{ hourly rate total}$$

Find the amount saved by renting at the least expensive rate.

$$\$42 - \$40 = \$2 \text{ amount saved by renting at the full-day rate}$$

In this case, it is more economical to choose the day rate.

■ CHECK YOUR UNDERSTANDING

E. Cary wants to rent a large screen video projection system to see games 3, 4, and 5 of the World Series. The projection system rental price by the day is \$130 and by the week, it is \$600. If the three games are played over 4 days, which rental rate will be the least expensive for him?

F. Jill Sun plans to paint her garage and estimates that it will take about 5 hours to do it with a paint sprayer. She can rent a sprayer at an hourly rate of \$18, at a half-day rate of \$56, or a full-day rate of \$80. Which is the least expensive rental rate for the task?



■ Rent or Buy

If you need something on a regular basis, it may be less expensive to buy than rent. To make this decision, you need to:

- Calculate the annual cost of renting the equipment.
- Calculate how many years it would take for the rental price to equal or exceed the purchase price.

EXAMPLE 4

You rent a rug-cleaning machine four days a year at a cost of \$25 a day. You see a rug cleaner on sale for \$225. Do you think you should buy the rug cleaner or continue to rent?

SOLUTION

$$4 \times \$25 = \$100 \text{ cost of renting the cleaner each year}$$

Divide the cleaner's purchase price by the annual rental cost to find the number of years it would take for the cost of the rental to equal or exceed the cost of the purchase.

$$\$225 \div 100 = 2.25 \text{ years to cover purchase price}$$

BUSINESS TIP

There are other factors to consider in any decision to rent or buy. In this case, you may want to consider purchasing the rug cleaner because in about two years you would "break even" on the purchase. But, if you don't have room to store the cleaner or if the machine is likely to break down after 1 or 2 years, you may decide to continue renting.

CHECK YOUR UNDERSTANDING

- G. A backpack leaf blower rents for \$25 a day. The same leaf blower sells new for \$169.99. Meka Jackson thinks she will use the leaf blower for 5 days a year to clean her garage of dust and dirt and her yard of leaves. How many days of renting, to the nearest tenth of a day, will it take for the rental cost to equal or exceed the purchase price?
- H. Joe Fiorelli rents a 40-foot extension ladder for a total of 4 days each year to clean the windows in his home in the spring and fall. The daily rental for the ladder is \$23.99. The same ladder costs \$349.99 new. How many years, to the nearest tenth of a year, would it take for the rental charges to equal or exceed the cost of buying the ladder?

Wrap Up

Look back at the Start Up question at the beginning of this lesson. You might buy the floor mats locally because it is convenient to do so and it will save you time. The quality of the floor mats in the local store might be better than in the discount store. You may also need advice about the product and you think that you will get better service locally than at a discount store. You may also want to support local businesses.

TEAM MEETING

With a team of one or two other students, develop a comparison of rental prices in your area for a home or garden product. For example, you might compare rental prices on floor waxers or garden tillers. Your comparison should describe the stores visited, the differing features of the product found at each store, the different rental terms offered, and the prices charged. Terms might include time of day, length of rental, and whether supplies are included in the rental price. Prepare a presentation for the class.

EXERCISES

Find the product.

1. $\$4.69 \times 8$

2. $\$5.39 \times 5.5$

3. $\$12.77 \times 12$

Find the difference.

4. $\$45.29 - \38.39

5. $\$139.26 - \108.66

Find the quotient, rounded to the nearest cent.

6. $\$2.59 \div 3.8$

7. $\$83.66 \div 8$

Find the percent, rounded to the nearest percent.

8. $\$8.38 \div \98.84

9. $\$14 \div \79.99

10. One radial tire sells for \$89.99. A set of 4 is priced at \$305.96. How much would you save if you bought a set of 4 now instead of one tire at a time over the next few months?

11. A digital camera is priced at \$369.89 at a department store. The same camera can be bought for \$310.88 plus \$12.50 shipping and handling over the Internet. How much would you save by buying the camera over the Internet?

A queen-size mattress and box springs set that regularly sells for \$1,499 is on sale for \$1,349.10.

12. How much would you save by buying the set on sale?

13. What percent of the original price would you save?

14. Tricia Lanley can buy DVD movies at the regular price of \$14.95 each, or at a sale price of 5 for \$66.95. How much would she save by buying five movies now instead of one at a time?

15. Carl Mueller found an automatic washer priced at \$549 and a dryer for \$399. They are on sale for only \$849 for the set. How much can Carl save if he buys the items as a set?

16. At an end of season sale, Vicky Charles bought a room air conditioner that was reduced from \$398.99 to \$349.99 and a fan that was reduced from \$39.95 to \$32.99. What total amount did she save?

An airline offers senior citizens a courtesy discount of 10% on all flights. Rudy Brown, a senior citizen, buys a ticket regularly priced at \$295.99.

17. What is the estimated amount of Rudy's discount?

18. What exact amount does Rudy pay for the ticket?

Sandra Wilson tills her garden once each year. She rents a garden tiller for one day at \$57 per day to do the job. She pays 5% tax on the rental price and uses 4 gallons of gas at \$1.65 per gallon.

19. What is her total cost for using the tiller?

20. If a similar tiller costs \$346.99 including tax, for how many days, to the nearest whole day, could Sandra rent it before renting would cost more than buying?



A $1\frac{1}{4}$ -lb box of Brand A cereal sells for \$4.39. A $1\frac{1}{2}$ -lb box of Brand B cereal sells for \$4.69.

21. What is the difference in the price per pound?
22. Which brand costs less per pound?
23. Yang Su needs a trailer to move her furniture and other things from her old apartment to a new one in another city. She estimates that loading and unloading the trailer will take about three days, including travel time. Yang can rent a trailer for \$49 a day or \$250 a week. Which rental rate will be the least expensive for Yang?
24. LaVonda Jones can rent a 20 horsepower wood chipper from a rental agency at \$136 a day. The same chipper can be bought new for \$1,789. For how many days, to the nearest tenth day, could LaVonda rent the chipper before renting would cost more than buying?

BEST BUY A notebook computer can be rented for \$105.95 a week or \$29.89 a day. You need the computer for 4 days.

25. At which rate, daily or weekly, would it be cheaper to rent?
26. How much would you save by renting it at that rate?
27. If a similar computer costs \$1,997 to buy, for how many full weeks could you rent the computer at the weekly rate before renting would cost more than buying?
28. **STRETCHING YOUR SKILLS** A friend sees an ad that would allow him to rent a large screen TV for \$20 a week, for 152 weeks. At the end of the rental period, he would own the TV. He could buy the same TV at the store for \$2,000. He thinks the rent-to-own price is a good buy. You don't. What are two comparisons between renting and buying the TV that you can make to support your position?

MIXED REVIEW

29. Find the average of 13, 15, 14, 19, and 20.
30. Subtract $\frac{1}{4}$ from $\frac{5}{8}$.
31. How many days are there between July 12 and September 23?
32. Billy Pinkus worked a total of 50 hours in one week. Of that time, 40 hours was at the regular rate of \$11.25 an hour and 10 hours was at time-and-a-half for overtime. What was Billy's gross pay for the week?
33. Josie Lamas earns an annual wage of \$63,470. Josie estimates her benefits at 32% of her wages. She also estimates that her job expenses are insurance, 6% of wages; commuting, \$438; dues, \$175; other, \$225. Find her annual net job benefits.
34. On October 1, Maria Moya's bank statement balance was \$372.57, and her check register balance was \$307.65. While comparing the statement and her check register, she found a service charge of \$4.23; earned interest of \$1.79; and outstanding checks for \$17.87, \$2.97, \$45.33, and \$1.19. Prepare a reconciliation statement for Maria.

5.5

Personal Internet Access

GOALS

- Calculate and compare the costs of connecting to the Internet
- Calculate and compare speeds of online connections

Start Up

Etta Williams wants to connect to the Internet. She sees ads for different types of connections at prices ranging from \$10 to \$110 in her newspaper. She wonders, "How can I tell which type of connection I should get?" What factors might she consider in making her decision?



Math Skill Builder

Review these math skills and solve the exercises that follow.

- 1 Add dollar amounts.

Find the sum. $\$79.89 + \$529.89 + \$49.99 = \659.77

1a. $\$29.99 + \$280 + \$16$

1b. $\$358 + \$125 + \$15.98$

- 2 Multiply dollar amounts and decimals by whole numbers.

Find the product. $\$24.99 \times 12 = \299.88 and $46.5 \times 8 = 372$

2a. $\$19.99 \times 12$

2b. 84.2×8

2c. $\$49.89 \times 12$

2d. $1,340,000 \times 8$

- 3 Divide whole numbers by whole numbers. Round quotients to the nearest tenth.

Find the quotient. $544,000 \div 128,000 = 4.25$, or 4.3

3a. $139,200 \div 42,000$

3b. $58,900,000 \div 256,000$

Internet Connection Costs

To connect your home computer system to the Internet, you must open an account with an **Internet service provider**, or ISP. This is an organization that provides access to the Internet in your area.

ISPs charge a variety of fees, including installation or set-up fees, fees for special equipment, and monthly **access fees** to connect you to the Internet. The amount of access fees may depend on how long the user is allowed to connect, or be **online** to the Internet. You may be limited to a certain number of hours each month or be allowed unlimited online time.

ISPs may offer several ways to connect to the Internet. The most common way is using a modem to connect through your telephone system. This type of connection

is called a *dial-up connection*. Faster speeds can be obtained by other ways, such as a *cable connection*, a *digital subscriber line connection*, or a *satellite connection*.

There may be other connection costs. You may install a second telephone line so that you can make and receive voice calls while you are online. ISPs may charge you extra for more than one e-mail account or for having your own web page.

You should protect your computer from viruses and from *hackers*. To do so, many people use antivirus programs and *firewall* hardware and/or software. Firewalls protect your system from unauthorized access by others who are online. Access to your computer may let others steal your files or data, such as credit card numbers and passwords. The cost of the antivirus and firewall software usually includes free updates for a limited time, such as a year. You need to update the software regularly because new viruses are created every day.

EXAMPLE 1

TeleMet is an ISP that offers Clara Figueroa a dial-up connection to the Internet. TeleMet charges a set-up fee of \$15 and offers two access rates. One rate is \$12 a month for up to 50 hours of online time. The other is \$19.95 for unlimited connection time. Clara estimates that she will use the Internet no more than 30 hours a month. Clara also pays \$29.95 a year to another firm for antivirus software. What will be Clara's total cost of connecting for one year?

SOLUTION

$12 \times \$12 = \144 Multiply the monthly fee by 12 to find yearly fees.

Add the yearly access fees to the set-up charge and other costs to find the total annual cost of the connection.

$\$144 + \$15 + \$29.95 = \188.95 total annual cost of the connection.

CHECK YOUR UNDERSTANDING

- A. Sal Bonacci paid for a cable connection to AreaNET, an ISP. The ISP charged a \$25 installation fee; \$75 for a network connection card for his computer; a monthly rental fee of \$5 for a modem, and a monthly online access fee of \$39.95 for an unlimited connection. Sal also bought antivirus software for \$36.99. What will be Sal's total cost to connect to the Internet for the first year?
- B. Townetwork, an ISP, offers you free installation of a digital subscriber line and unlimited connection to the Internet. Access fees are \$40 per month, \$450 for a whole year, or \$875 for 2 years. How much will you save by paying a 2-year access fee instead of the monthly access fee?

Internet Speeds

The cost of your Internet connection usually depends on the speed of the connection. The faster the connection, the higher the price will be. For people who connect to web sites that contain lots of images or who transfer large documents over the Internet, speed can be very important. For those whose primary use of the Internet is sending and receiving short e-mail messages, speed is not as important.

BUSINESS TIP

To shop for ISPs in your area, you can use the Yellow Pages of your phone book. A better way is to search for "Internet service providers" using a Web search tool at school, the library, or a friend's home. The sites you find usually review ISP service, rates, and features to let you make an informed choice.

BUSINESS TIP

The "k" in kbps stands for "kilo" or thousand. The "m" stands for "mega" or million.

The speed of your connection is usually stated in *thousands* or *millions* of bits per second, or **kbps** and **mbps**. That is because computers reduce all the letters, numbers, spaces, commas, and other information you enter into a document into *bits*. When you send a document over the Internet, you are really sending a bunch of bits.

The speed of your connection may be faster when you **download**, or receive files over the Internet than when you **upload**, or send a file to another person. For example, a digital subscriber line's upload speed may be 128 kbps, but its download speed may be six times faster at 768 kbps.

Two download speeds commonly available for each type of home Internet connection include:

| | |
|-----------|--------------------|
| Dial-up | 33 kbps, 56 kbps |
| Cable | 128 kbps, 256 kbps |
| DSL | 144 kbps, 768 kbps |
| Satellite | 150 kbps, 500 kbps |

You rarely get the full speed shown in the rate. For example, you may only get a true speed of 40-45 kbps on a 56 kbps dial-up line. A number of factors reduce line speed. Speed also may vary during a day because more people may use the lines at certain times.

While speeds on the Internet are measured in bits, most computer systems use 8 bits, or a *byte* to represent a single letter, number, or other item of data, such as a space, comma, or plus sign. The size of a downloaded document, image, or sound is usually shown in bytes. For example, the size of a letter to a friend may be 12,000 bytes, or 12 KB.

To find how much time it will take to download or upload a file on the Internet you convert the file's size from bytes into bits.

EXAMPLE 2

You want to download a document that is 45.3 KB in size from the Internet. If you have a true Internet connection speed of 42 kbps, how long will it take to download the file?

SOLUTION

Multiply the size of the document by 8 to find the number of bits it contains.

$$45,300 \text{ bytes} \times 8 = 362,400 \text{ bits}$$

Write out the speed of the connection:

$$42 \text{ kbps} = 42,000 \text{ bits per second}$$

Divide the size of the file in bits by the connection speed in bits to find the number of seconds needed to transfer the file.

Round off to the nearest tenth of a second.

$$362,400 \div 42,000 = 8.62, \text{ or } 8.6 \text{ seconds needed to transfer file}$$

MATH TIP

Bit is short for **binary digit**. The binary number system uses only two numbers, one and zero. A bit only has two states, on and off and uses these states to form characters much like Samuel Morse did with his short and long signals, dots and dashes.

BUSINESS TIP

A capital B is used to indicate a byte. A small b is used to indicate a bit.

BUSINESS TIP

A 38.5 KB file contains 38,500 bytes. A 1.67 MB file contains 1,670,000 bytes.

Multiply the bytes by 8 to find the number of bits in each file.

CHECK YOUR UNDERSTANDING

- C. Tony's cable Internet connection gives a true speed of 350 kbps. A software program that he wishes to buy and download from the Internet is 1.65 MB in size. How many seconds, rounded to the nearest tenth of a second, will it take to download the file?
- D. Jamie Kirk changes from a dial-up Internet connection rated at 56 kbps to a cable connection rated at 256 kbps. How many times faster, to the nearest whole number, is the new connection than the old?

Wrap Up

What speed Etta needs depends on how she intends to use the Internet. If she only sends and receives short e-mail messages to and from friends, a dial-up connection is adequate. If she wants to view web pages with lots of images, she will probably want a faster connection than dial-up offers. If she downloads large files or attaches them to e-mail messages, she probably also will want a faster connection. She should look at the size of the files she is likely to upload and download and then calculate how fast those files transfer at different connection speeds to make her decision.

COMMUNICATION

Use the Web to find two national and two local Internet service providers. Make a chart with rows listing the features provided by the ISPs and the columns showing which of the features each ISP offers. Features might include the number of free e-mail accounts, the free space provided for your own web pages, and speed ranges.

Make another chart showing the one-time fees and the monthly fees charged by each ISP. Then answer these questions:

1. What types of workers would most benefit from a national ISP account?
2. Why might you want a local ISP account instead of a national one?

EXERCISES

Perform the indicated operation.

1. $\$34.98 + \$16 + \$288$
2. $38,285 \times 8$
3. $1,890,200 \div 128,000$
4. $452,880 \div 45$

Vincent Trucano can get an ISP account with WorldVu for a start-up fee of \$15 and either \$9.99 a month for 150 online hours per month or \$24.99 for unlimited online hours per month.

5. What is the annual cost of the 150-hour connection for the first year?
6. What is the annual cost of the unlimited online connection for the first year?

An ISP sells Sara Janes an unlimited, 256 kbps connection to the Internet for a \$39.99 monthly access fee, rental of a cable modem for \$3.50 a month, and an installation fee of \$125. Sara also spends \$19.95 for antivirus software and \$29.99 for firewall software.

7. What are the monthly costs of the connection?

8. What is the total of the other connection costs?

Arif Filani paid \$600 for a satellite dish antenna and modem and \$199 for their installation to StarNet, a satellite ISP. The company offers access fees of \$69.99 a month or \$469.95 a year for unlimited access

9. If Arif chooses a monthly access fee, what will be his total cost for Internet access for the first year?

10. How much could Arif save by paying the access fee annually?

11. Julio Rivera buys Internet access from his telephone company. He pays \$85 in installation fees, \$199 for a modem kit, and a monthly fee of \$49.95 for 768 kbps, unlimited access to the Internet. The access fee also includes one voice telephone line. So, he cancels one of his existing telephone lines costing \$18.95 a month. What is the net cost for Internet access for the first year?

BEST BUY Ben Morganstein could pay an ISP \$27 for a set-up fee for a dial-up Internet connection. He also would need to pay his telephone company a \$29 activation fee for a second phone line for the dial-up connection. His monthly fees would include \$15.89 for the phone line and \$19.95 for a 56 kbps unlimited use Internet connection. His cable company offers him free installation, and a \$45 monthly access fee for a 256 kbps connection that includes rental of the cable modem.

12. Which plan would provide the least total costs?

13. How many times faster is the cable connection than the dial-up connection? Round your answer to the nearest whole number.

14. Ursala Christo has a cable connection that offers true upload speeds of 100 kbps and true download speeds of 490 kbps. If she sends a 1.5 MB file to a friend, how many seconds will it take?

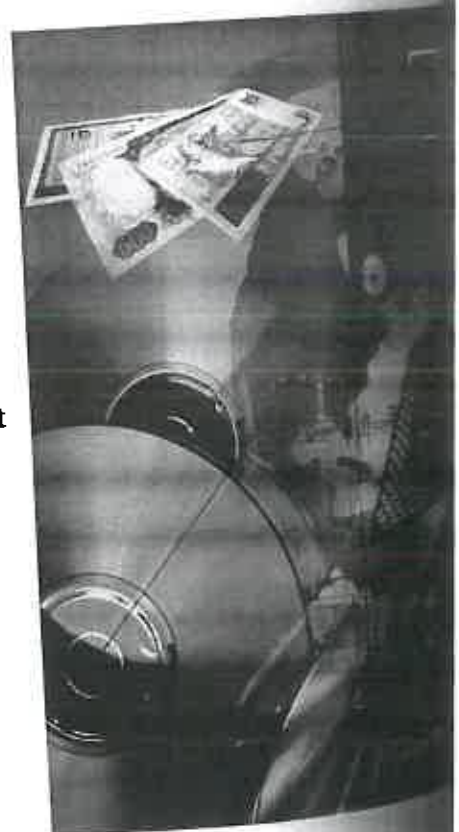
Barry Convers has a dial-up connection with a true download speed of 40 kbps. How long will it take him to download the following files?

15. a scanned image file of 624 KB

16. a sound file of 36 KB

17. a program file of 1.2 MB

18. **DECISION MAKING** June Wolack has a cable Internet connection at 256 kbps that costs \$23.95 a month. What other purchases might June consider making?



MIXED REVIEW

19. Round \$0.9607 to the nearest cent.
20. Round \$10.3049 to the nearest cent.
21. Estimate the quotient: $1,200,000 \div 128,000$.
22. Find the product: $\frac{5}{8} \times \frac{2}{3}$.
23. What percent is 56 of 256, to the nearest tenth?
24. What is the average of these numbers: 42, 45, 46, 39, and 44?
25. Van Drueke is an accountant who works for a temporary help agency. He is paid \$196 per diem. Last month he worked 18 days as an account temp. What was his gross pay for the month?

Molly O'hara's gross pay in the second week of January was \$1,120.

26. What was her social security deduction at 6.2%?
27. What was her Medicare deduction at 1.45%?
28. Suroyo Wahyudi deposited \$3,500 in a money market account that pays interest compounded quarterly. For the first 3 months, the account paid 4.3% annual interest. For the next 3 months, an annual interest rate of 4% was paid. What total interest did Suroyo earn for the six months?
29. A 90-day promissory note is dated March 15. What is the due date of the note?
30. Micaela Rodrigo bought a router table priced at \$69.99 in a state with a sales tax of 6.25% and a city with a sales tax of 1.5%. What is the total amount Micaela paid for the router table?

Find the extension for each item.

31. 8 gross @ \$34.89.
32. 12 pair @ \$19.99
33. 50 reams @ \$29.89
34. Cans of Tasty Vittles cat food sell at 6 for \$3.99. Cans of Cat's Delight sell at 5 for \$3.39. Which cat food sells at a lower price per can? How much lower per can?
35. Luis Franco is a collector for a candy machine operator. He makes collections for the week: M, \$598.29; T, \$388.78; W, \$612.89; Th \$508.19; F, \$659.22. What are his total collections for the week?

