

Step 4. There are two ways to change $\frac{6.50}{18.00}$ to a percent: the exact method and the rounding method.

Exact: $\frac{6.50}{18.00} = \frac{6\frac{1}{2}}{18} = \frac{6\frac{1}{2} \times \frac{5}{5}}{18 \times \frac{5}{5}} = \frac{36\frac{1}{2}}{90} = 36\frac{1}{2}\% \quad ?\% = 36\frac{1}{2}\%$

Rounding: $\frac{6.50}{18.00} = 0.361 = 36.1\% \text{ rounded} \quad ?\% = 36.1\% \text{ rounded}$

Step 5. $36.1\% \times \$18.00 = \6.50
 $0.361 \times \$18.00 = \6.50 rounded

(d) **Step 1.** $?\% \times 2 = 3.5$

Step 2. $\% \times B = P$

Step 3. $\% = \frac{P}{B}$, so $?\% = \frac{3.5}{2}$

Step 4. $?\% = \frac{3.5}{2} = 1.75 = 175\%$

Step 5. $175\% \times 2 = 3.5$
 $1.75 \times 2 = 3.5$

(e) **Step 1.** $10\frac{2}{5} = ?\% \times 2.6$

Step 2. $P = \% \times B$

Step 3. $\% = \frac{P}{B}$, so $?\% = \frac{10\frac{2}{5}}{2.6}$

Step 4. $?\% = \frac{10\frac{2}{5}}{2.6} = \frac{10.4}{2.6} = 2.6 \overline{)10.4} \begin{array}{r} 4. \\ 10.4 \\ \hline 0 \end{array} = 4.00 = 400\%$

Step 5. $400\% \times 2.6 = 10\frac{2}{5}$
 $4.00 \times 2.6 = 10.4$

Solved using a calculator, problem (e) looks like this:

$10 \boxed{\div} 2 \boxed{\div} 5 \boxed{\div} 2.6 \boxed{=} \rightarrow 4. \boxed{\times} 100 \rightarrow 400. \text{ or } 400\%$

Calculating Percent Increase or Decrease

Businesspeople often have occasion to solve %-type problems. A common case is when they need to calculate percent increases or percent decreases. Such problems are not difficult if you follow these steps:



Steps: Calculating Percent Increases and Decreases

STEP 1. Calculate the amount of increase or decrease by subtraction.

STEP 2. Use the amount of increase or decrease and the *original* amount to calculate the percent increase or decrease.

**WORK THIS PROBLEM****The Question:**

If your original hourly pay rate was \$8.75 per hour and you received an increase to \$9.80, what would be your percent increase?

✓ YOUR WORK**The Solution:**

1. Amount of increase = $\$9.80 - \$8.75 = \$1.05$.
2. Calculate the percent increase: \$1.05 is what percent of \$8.75?

Step 1. Translate: $\$1.05 = ?\% \times \8.75

Step 2. Label: $P = \% \times B$

Step 3. Rearrange: $\% = \frac{P}{B}$, so $?\% = \frac{\$1.05}{\$8.75}$

Step 4. Solve: $?\% = \frac{1.05}{8.75} = 0.12 = 12\%$

Step 5. Check: $12\% \times \$8.75 = \1.05
 $0.12 \times \$8.75 = \1.05

Using a calculator makes it easy:

$$9.8 \text{ } \boxed{-} \text{ } 8.75 \text{ } \boxed{\div} \text{ } 8.75 \text{ } \boxed{\times} \text{ } 100 \text{ } \boxed{=} \text{ } 12$$

... but always check your answer, especially when you use a calculator.

B-Type Problems Percent problems that ask you to find the base, given the part and the percent.

B-Type Problems

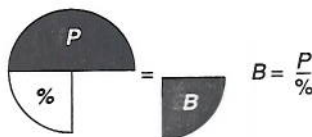
Problems that ask you to find the base or total are called **B-type problems**. Such problems are usually stated in the form: "Find a number of which 30% is 8.7," or "8.7 is 30% of what number?" The real question is

30% of what number is equal to 8.7?

Step 1. Translate: $30\% \times ? = 8.7$

Step 2. Label: $\% \times B = P$

Step 3. Rearrange: Use the Equation Finder:



$$\text{so } B = \frac{8.7}{30\%}$$

Step 4. *Solve:* Remember to first convert the percent number to a decimal number. So

$$B = \frac{8.7}{30\%} = \frac{8.7}{0.30} = 0.30 \overline{) 8.70} = 29$$

$$\begin{array}{r} 29 \\ 0.30 \overline{) 8.70} \\ \underline{60} \\ 270 \\ \underline{270} \\ 0 \end{array}$$

Step 5. *Check:* $30\% \times 29 = ?$
 $0.30 \times 29 = 8.7$



WORK THIS PROBLEM

The Question:

Solve the following.

- (a) 16% of what number is equal to 5.76?
- (b) 41 is 5% of what number?
- (c) Find a number such that $12\frac{1}{2}\%$ of it is $26\frac{1}{4}$.
- (d) 2 is 8% of a number. Find the number.
- (e) 125% of what number is 35?

✓ YOUR WORK

The Solution:

(a) **Step 1.** $16\% \times ? = 5.76$

Step 2. $\% \times B = P$

Step 3. $B = \frac{P}{\%}$, so $B = \frac{5.76}{16\%}$

Step 4. $16\% = 0.16$

$$B = \frac{5.76}{16\%} = \frac{5.76}{0.16} = 0.16 \overline{) 5.76} = 36$$

$$\begin{array}{r} 36 \\ 0.16 \overline{) 5.76} \\ \underline{48} \\ 96 \\ \underline{96} \\ 0 \end{array}$$

Step 5. $16\% \times 36 = 5.76$
 $0.16 \times 36 = 5.76$

(b) **Step 1.** $41 = 5\% \times ?$

Step 2. $P = \% \times B$

Step 3. $B = \frac{P}{\%}$, so $B = \frac{41}{5\%}$

Step 4. $5\% = 0.05$

$$B = \frac{41}{5\%} = \frac{41}{0.05} = 0.05 \overline{)41.00} = 820$$

$$\begin{array}{r} 40 \\ 10 \\ 10 \\ 00 \\ 00 \end{array}$$

Step 5. $5\% \times 820 = 41$
 $0.05 \times 820 = 41$

(c) **Step 1.** $26\frac{1}{4} = 12\frac{1}{2}\% \times ?$

Step 2. $P = \% \times B$

Step 3. $B = \frac{P}{\%}$, so $B = \frac{26\frac{1}{4}}{12\frac{1}{2}\%}$

Step 4. $12\frac{1}{2}\% = 12.5\% = 0.125$

$$B = \frac{26\frac{1}{4}}{12\frac{1}{2}\%} = \frac{26.25}{0.125} = 0.125 \overline{)26.250} = 210$$

$$\begin{array}{r} 250 \\ 125 \\ 125 \\ 00 \\ 00 \end{array}$$

Step 5. $12\frac{1}{2}\% \times 210 = 26\frac{1}{4}$
 $0.125 \times 210 = 26.25$

Using a calculator,

$$26.25 \boxed{\div} 12.5 \boxed{\%} \longrightarrow 210.$$

(d) **Step 1.** $2 = 8\% \times ?$

Step 2. $P = \% \times B$

Step 3. $B = \frac{P}{\%}$, so $B = \frac{2}{8\%}$

Step 4. $8\% = 0.08$

$$B = \frac{2}{8\%} = \frac{2}{0.08} = 0.08 \overline{)25.00} = 25$$

$$\begin{array}{r} 16 \\ 40 \\ 40 \end{array}$$

Step 5. $8\% \times 25 = 2$
 $0.08 \times 25 = 2$

(e) **Step 1.** $125\% \times ? = 35$

Step 2. $\% \times B = P$

Step 3. $B = \frac{P}{\%}$, so $B = \frac{35}{125\%}$

Step 4. $125\% = 1.25$

$$B = \frac{35}{125\%} = \frac{35}{1.25} = 1.25 \overline{)35.00} = 28$$

$$\begin{array}{r} 25\ 0 \\ 10\ 00 \\ \hline 10\ 00 \end{array}$$

Step 5. $125\% \times 28 = 35$

$$1.25 \times 28 = 35$$

Using a calculator,

$$35 \div 125 \% \longrightarrow 28.$$

In addition to payroll and unemployment taxes, businesses must collect and pay a wide range of taxes, including sales taxes, excise taxes, and property taxes.

Calculating Sales Tax

Sales Tax A tax on the price of a good sold at the time of its sale.

Most states and many cities and counties levy a sales tax. The **sales tax** is collected by the businesses from the buyer at the time of purchase. Manufacturers, wholesalers, and suppliers selling merchandise to other businesses for resale do not collect sales tax. The sales tax is only collected at the last sale—the sale to the consumer. This is usually done at the retail store.

Sales tax calculations may be made using a table or simply by multiplying by the tax rate. The answer is rounded to the nearest cent.

$$\text{Sales tax} = \text{rate} \times \text{purchase price}$$

Once you have calculated the sales tax, it's easy to calculate the total price:

$$\text{Total price} = \text{purchase price} + \text{sales tax}$$

For example, Sy's Office Supplies (SOS) sold a file cabinet for \$59.95. If the sales tax rate is 6%, what are the sales tax and the total price?

Rate

↓

Purchase price

↓

$$\begin{aligned} \text{Sales tax} &= 6\% \times \$59.95 = 0.06 \times \$59.95 \\ &= \$3.597 = \$3.60 \text{ rounded} \\ \text{Total price} &= \$59.95 + 3.60 = \$63.55 \end{aligned}$$

**WORK THIS PROBLEM***The Question:*

- (a) Bits 'n' Bytes sells a computer modem for \$357.84. If the sales tax rate is $5\frac{1}{2}\%$, what are the sales tax and the total price?
- (b) Count On Us sells a "Struggling Student" calculator for \$11.95. If the sales tax rate is 6%, what are the sales tax and the total price?

✓ YOUR WORK*The Solution:*

- (a) Sales tax = $5\frac{1}{2}\% \times \$357.84 = 5.5\% \times \357.84
 $= 0.055 \times \$357.84 = \19.68 rounded
 Total price = $\$357.84 + \$19.68 = \$377.52$
- (b) Sales tax = $6\% \times \$11.95 = 0.06 \times \$11.95 = \$0.72$ rounded
 Total price = $\$11.95 + \$0.72 = \$12.67$

A calculator can make the simple task of finding sales tax and total price even easier.

Using a Calculator to Find the Total Purchase Price

When finding sales (or excise) tax and total purchase price, you can take advantage of the shortcut key sequence on most calculators. For example, to find the total price of a \$59.95 file cabinet with a 6% sales tax rate, key in



59.95 \times 6 $\%$ $+$ $=$ \rightarrow 63.547

Note that you hit a plus sign just before the equal sign at the end of this sequence. The result rounds to \$63.55, as we saw earlier in the text.

Determining Excise Tax

Excise Tax A federal tax on the manufacture, sale, or consumption of designed items, usually items of a luxury or nonessential nature.

In addition to sales taxes, the federal government levies an **excise tax** on the manufacture, sale, or consumption of some items. Excise taxes are usually imposed on luxury or nonessential merchandise. Examples include alcohol, furs, tobacco products, vehicles, and telephone service.

Excise tax is calculated by the same method as sales tax.

$$\text{Excise tax} = \text{rate} \times \text{price}$$

For example, if the excise tax rate is 8%, a \$10,000 fur coat would be subject to an excise tax of

$$\begin{aligned} \text{Excise tax} &= \text{rate} \times \text{price} \\ &= 8\% \times \$10,000 = 0.08 \times \$10,000 = \$800 \end{aligned}$$

**YOUR
TURN****WORK THIS PROBLEM***The Question:*

Bits 'n' Bytes purchased a new delivery truck for \$29,525. If the excise tax rate is 5%, what is the excise tax?

✓ YOUR WORK*The Solution:*

$$\text{Excise tax} = 5\% \times \$29,525 = 0.05 \times \$29,525 = \$1476.25$$

Are you ready for a bit of practice on the three basic kinds of percent problems? Wind your mind and turn to Section Test 4.2.

CASE STUDY 4

Pipes on the Internet

The first step in starting a new business is to find a banker who believes in what you are trying to do, and the second step is to work with that person to set up a financial plan. As part of their effort to start ePIPE, an Internet plumbing supply company, Jerry and Terry estimated revenues and salaries for the first five years.

The partners told their banker that as the business grew, revenue should increase, and salaries would be calculated as

a decreasing percentage of revenues. They estimated that revenue would increase by 8% per year, whereas the percentage of revenue paid in salaries would decrease by 1% per year.

Give our eager entrepreneurs a hand by completing the following chart.

	Revenues	Salaries	Salary as a Percent of Revenue
First year	\$350,000	\$70,000	20%
Second year			19%
Third year			18%
Fourth year			17%
Fifth year			16%

- (a) What are the anticipated total revenues for the five-year period?
- (b) What are the anticipated total salaries for the five-year period?
- (c) What percent of total revenues would total salaries represent for this period?

SECTION TEST 4.2 Percent

Name _____

Date _____

Course/Section _____

The following problems test your understanding of Section 4.2, Solving Percent Problems.

A. Complete the following by solving for the part, percent, or base.

	Base	Percent	Part		Base	Percent	Part
1.	20	35%	_____	2.	60	30%	_____
3.	75	80%	_____	4.	16	75%	_____
5.	_____	120%	180	6.	_____	160%	320
7.	_____	35%	42	8.	_____	65%	52
9.	260	_____	247	10.	750	_____	735
11.	900	_____	216	12.	860	_____	731
13.	125	24%	_____	14.	925	160%	_____
15.	370	_____	629	16.	150	_____	360
17.	_____	350%	980	18.	_____	3%	24
19.	_____	17%	935	20.	2400	23%	_____

Calculate the tax and total purchase price.

	Selling Price	Tax Rate	Tax	Total Price
1.	\$49.95	6%		
2.	21.15	7%		
3.	157.59	5%		
4.	1499.99	6%		
5.	17.67	$5\frac{1}{2}\%$		
6.	539.89	$6\frac{1}{2}\%$		
7.	323.99	$5\frac{1}{4}\%$		
8.	2007.12	$5\frac{3}{4}\%$		
9.	199.00	$6\frac{3}{4}\%$		
10.	25.77	$6\frac{1}{4}\%$		

B. Solve.

- 32% of 25 is _____.
- _____ is 85% of 80.

3. 52 is 80% of _____.
4. $33\frac{1}{3}\%$ of _____ is 4.
5. 10 is what percent of 15? _____
6. What percent of \$27 is \$675? _____
7. _____ is 5% of \$260.
8. \$5.88 is what percent of \$4.90? _____
9. 124% of _____ is \$9.30.
10. 105% of 72 is _____.
11. 303.75 is what percent of 135? _____
12. 232.8 is 97% of _____.
13. What percent of 85 is 66.3? _____
14. 52.2 is 87% of _____.
15. _____ is 350% of 2.5.
16. 14.85 is what percent of 8.25? _____
17. 35% of \$12.80 is _____.
18. \$10.62 is 36% of _____.
19. 25.6% of 6.5 is _____.
20. 68.5% of _____ is 2.466.

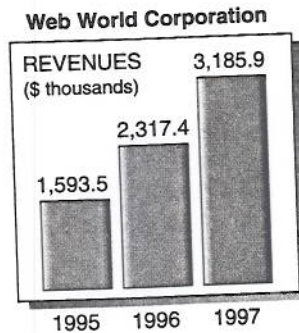
C. Applied problems.

1. Fantasy Realty, Inc., bought a new office building for \$127,500 with a down payment of 18%. Calculate the down payment.
2. Ava's Air Tours has a 4-hour tour that originally cost \$275. The price is reduced by 24% for frequent flyers. Calculate (a) the discount and (b) the new price.
3. Pia, a pizza dough slinger at The Pizza Palace, was originally paid \$9.20 per hour. However, Pia developed a two-handed, two-pizza sling that has made her the talk of the town. Her new pay rate is \$10.58. Calculate (a) the amount of increase and (b) the percent increase.

4. Floating Holidays is buying a new sailboat for \$92,000 with a down payment of \$33,120. Calculate the percent down payment.
5. Astute Accents has a classic designer belt on sale at 22% off. The original price was \$72.50. Calculate (a) the discount and (b) the sale price.
6. The Zippy Delivery Service is buying a new delivery truck. The purchase price is \$22,100. The down payment is 26% of the purchase price. Calculate the down payment.
7. Maria's Mannequins pays mannequin makeup artists \$8.50 per hour. If makeup artists are given an 8% pay raise, calculate (a) the amount of the raise and (b) the new pay rate.
8. One dozen megabолts from Big Ben's Bolts sell for \$12.50 plus 6% sales tax. Calculate (a) the sales tax and (b) the total cost.
9. Bits 'n' Bytes has a replacement keyboard that is sold for \$125.60. The total price with tax is \$131.88. Calculate (a) the amount of sales tax and (b) the sales tax rate.
10. The Fly-by-Night Aviary has extra-large bird cages in stock. The original price for this bird cage was \$246.80. However, the cage maker has raised the price to \$259.14. Calculate (a) the increase and (b) the percent increase.
11. The sales manager at Wired-for-Sound Electronics had an original salary of \$1875 per month. Due to the growth of the business, the sales manager is getting an 11% salary increase. Calculate (a) the amount of increase and (b) the new salary.
12. Bob's Beeflike Burgers purchased a new burger former for \$8700. The first year it lost value (depreciated) 28%. Calculate (a) the depreciation and (b) the new value.
13. The head chef at Lew's new gourmet restaurant originally had a weekly salary of \$1550. Customers raved about the food, so Lew raised his chef's salary to \$1612. Calculate (a) the amount of increase and (b) the percent increase.
14. The Butter-em-Up Bakery typically sells a dozen croissants for \$12.50. This weekend the sale price will be \$10.75. Calculate (a) the amount of decrease and (b) the percent decrease.

15. Kate's Delicacies makes 240 Black Forest cakes per day. The cakes always sell out, so Kate has decided to increase production to 255 cakes. Calculate (a) the increase and (b) the percent increase.
16. Shiring Brokerage's earnings last year were \$87,500. This year, talented financial management has brought about an 8.5% increase. Calculate (a) the amount of increase and (b) the new earnings.
17. J.R.'s Construction Company bought a new truck that originally cost \$24,500. After one year the truck was worth \$16,660. Calculate (a) the decrease in value and (b) the percent decrease.
18. Risky Business's earnings increased from \$124,000 last year to \$128,464 this year. Calculate (a) the amount of increase and (b) the percent increase.
19. Woody's Lumber Mill originally produced 450 curved stairway posts per week but now produces 567 such posts per week. Calculate (a) the increase and (b) the percent increase.
20. Rowdy's Music has been providing disc jockeys and continuous entertainment for \$84.75 an hour but wants to increase the hourly price by 24%. Calculate (a) the increase and (b) the new hourly price of an hour of Rowdy's Music.
21. The Cherchez le Prix restaurant originally earned \$15,200 per month while it was the place to be. Lew's trendy new restaurant has stolen the limelight, and Cherchez's profits have decreased by 27%. Calculate (a) the decrease and (b) the new earnings.
22. Bull's Gutter Service earnings decreased 7% during the winter months. The original earnings were \$7700. Calculate (a) the decrease and (b) the new monthly earnings.
23. Sew What? has a sewing machine that originally sold for \$235.50. The reduced price is \$202.53. Calculate (a) the amount of decrease and (b) the percent decrease.

24. The Bits 'n' Bytes firmware programmers typically produce 1550 lines of computer code per week. The expanding business needs to increase programmer productivity to 1953 lines per week. Calculate (a) the increase and (b) the percent increase.
25. Calculate the percent increase in revenues for the Web World Corporation from 1996 to 1997.



26. Ken, the computer guru at the Bits 'n' Bytes Corporate office, found that his computer had 34,381,824 bytes of disk used on his hard drive and 5,157,274 bytes unused in file clusters. Calculate the percent of wasted disk space.
27. Phil is in charge of the produce department at the Everyman's Grocery. From past experience, Phil anticipates that 13% of the tomatoes that are purchased will spoil before they are sold. He recently purchased 162 pounds of tomatoes from a local farmer. How many pounds of tomatoes can Phil actually expect to sell?
28. The buyer for Dynamite Deals purchased \$23,482 worth of novelty items for a spring promotion. When the order arrived, she discovered that \$1248 worth of items were damaged. She returned the damaged goods and received a 23% discount on the part of the order that she kept. How much was the check that she sent for this order?
29. Stock in Ditto.com went from an IPO (initial public offering) price of \$19 per share to \$205 per share in the first four months of trading. What return on investment was this? Find the percent increase.
30. An El Niño storm destroyed much of the physical plant of the Scilicide Corp., causing its stock to drop quickly from $50\frac{1}{4}$ to $33\frac{1}{2}$ a share.
- What percent decrease was this?
 - Two years later the plant was rebuilt and its stock was selling at 80. What percent increase in value was this for an investor who kept his prestorm stock?
 - What was the percent increase in value for an investor who bought the stock at $33\frac{1}{2}$?

31. Maria's Mannequins sold a mannequin for \$137. If the sales tax rate is 6%, what were (a) the tax and (b) the total price?
32. Woody's Lumber Mill sold J.R.'s Construction ten 4-ft by 8-ft sheets of plywood. The price per sheet was \$8.25. If the sales tax rate is 7%, what were (a) the tax and (b) the total price?
33. By the Byte Software House sold a word processing package for \$199. If the sales tax rate is $5\frac{1}{2}\%$, what were (a) the tax and (b) the total price?
34. The OKC Community College Bookstore sold an English literature textbook for \$41.55. If the sales tax rate is $6\frac{1}{4}\%$, what were (a) the tax and (b) the total price?
35. Crystal's Diamonds (on the TV shopping channel) sold a tennis bracelet for \$7200. If the excise tax rate is 12%, what was the excise tax?
36. Keep on Truckin' sold a truck for \$18,699. If the excise tax rate is 4%, what was the excise tax?
37. Georgia Sand purchased a car for \$21,345. If the excise tax rate is 5%, what was the excise tax?
38. Robert Stevenson bought new car tires for \$235. If the excise tax rate is 5%, what was the excise tax?



Key Terms

base
B-type problems
part

percent
%-type problems
P-type problems

sales tax
excise tax

Chapter 4 at a Glance

Page	Topic	Key Point	Example
145	Changing a decimal number to a percent	Multiply the decimal number by 100%.	$0.375 \times 100\% = 37.5\%$
146	Changing a fraction to a percent	Divide the numerator by the denominator to find a decimal number. To convert the decimal number, multiply by 100%.	$\frac{3}{4} = 4 \overline{)3.00}$ $0.75 \times 100\% = 75\%$
148	Changing a percent to a decimal number	Divide by 100%.	$50\% = \frac{0.5}{100} 50.0 = 0.5$
149	Changing a percent to a fraction	Divide by 100%; reduce to lowest terms.	$50\% = \frac{50}{100} = \frac{1}{2}$
157	Solving P-type problems	Use the formula: $P = \% \times B$	What is 30% of 50? $P = 30\% \times 50$ $= 0.30 \times 50 = 15$
161	Solving %-type problems	Use the formula: $\% = \frac{P}{B}$ express as a percent	What percent of 40 is 16? $\% = \frac{16}{40} = 0.40 = 40\%$
164	Solving B-type problems	Use the formula: $B = \frac{P}{\%}$	125% of what number is 35? $B = \frac{35}{125\%} = \frac{35}{1.25} = 28$
167	Calculating sales tax	Multiply by the tax rate	6% sales tax on \$150 is $\$150 \times 0.06 = \9.00



WORKSPACE

SELF-TEST Percent

Name _____

Date _____

Course/Section _____

The following problems test your understanding of percents.

1. Write $\frac{7}{8}$ as a percent. _____
2. Write $\frac{11}{16}$ as a percent. _____
3. Write 0.075 as a percent. _____
4. Write 2.4 as a percent. _____
5. Write 185% as a decimal number. _____
6. Write 8.2% as a decimal number. _____
7. Write 85% as a fraction and reduce to lowest terms. _____
8. Write 124% as a fraction and reduce to lowest terms. _____
9. What is 65% of 140? _____
10. 124% of 250 is what? _____
11. 14% of what is 1008? _____
12. 817 is 95% of what? _____
13. 468 is what percent of 720? _____
14. What percent of 450 is 621? _____
15. A Black Forest cake costs \$17.50 plus 6% sales tax at Kate's Delicacies. Calculate (a) the tax and (b) the total price.
16. Maria's Mannequins is buying new mannequin wigs. The original cost of a lifelike wig was \$58.60. There is a wig sale in progress, and the price is discounted by 25%. Calculate (a) the discount and (b) the sale price.
17. Shiring's Brokerage has increased the apprentice pay rate from \$7.60 to \$8.74 per hour. Calculate (a) the increase and (b) the percent increase.
18. J.R.'s Construction Company has increased the price of exterior door installation from \$128.00 to \$174.08. Calculate (a) the increase and (b) the percent increase.

19. The Garden of Earthly Delights has discounted the price of installing a spring flower bed by 16%. If the amount of the discount is \$15.68, calculate (a) the original price and (b) the discounted price.
20. The music system in Lew's restaurant has depreciated \$187.50, which is 15% of its original value. (a) What was the system's original value? (b) What is its new reduced value?
21. Bob's Beeflike Burgers needs to increase bun production from 5400 buns per day to 7290 buns per day. Calculate (a) the increase and (b) the percent increase.
22. Hiram's Employment Agency earned \$342 interest on an account that paid 9% interest. Calculate the amount invested.
23. The Fly-by-Night Aviary has decreased the price of a singing canary from \$24.50 to \$18.13. Calculate (a) the decrease and (b) the percent decrease.
24. Ava's Air Tours made \$6700 profit during the month of July. Profits increased by 17% during August. Calculate (a) the increase and (b) the August profit.
25. Harriet, a beautician, needs to increase the price of her permanents by 15% due to an increase in the cost of supplies. If the original price was \$52.80, what is the new cost?