

**4-7****Study Guide and Intervention*****Percents and Decimals***

To write a percent as a decimal, divide the percent by 100 and remove the percent symbol. To write a decimal as a percent, multiply the decimal by 100 and add the percent symbol.

**Example 1** Write 42.5% as a decimal.

$$42.5\% = \frac{42.5}{100}$$

Write the percent as a fraction.

$$= \frac{42.5 \times 10}{100 \times 10}$$

Multiply by 10 to remove the decimal in the numerator.

$$= \frac{425}{1,000}$$

Simplify.

$$= 0.425$$

Write the fraction as a decimal.

**Example 2** Write 0.625 as a percent.

$$0.625 = 062.5$$

Multiply by 100.

$$= 62.5\%$$

Add the % symbol.

**Exercises****Write each percent as a decimal.**

1. 6%

2. 28%

3. 81%

4. 84%

5. 35.5%

6. 12.5%

7. 14.2%

8. 11.1%

**Write each decimal as a percent.**

9. 0.47

10. 0.03

11. 0.075

12. 0.914

**4-7****Practice*****Percents and Decimals*****Write each percent as a decimal.**

1. 35%                      2. 90%                      3. 5 %                      4. 1%
5. 21.8%                      6. 64.8%                      7. 4.1%                      8. 8.5%
9.  $39\frac{21}{50}\%$                       10.  $17\frac{2}{5}\%$                       11.  $40\frac{3}{4}\%$                       12.  $88\frac{3}{5}\%$

**Write each decimal as a percent.**

13. 0.4                      14. 0.8                      15. 3.7                      16. 9.1
17. 0.77                      18. 0.03                      19. 0.25                      20. 0.59
21. 0.375                      22. 0.123                      23. 0.005                      24. 0.6019

**Replace each ● with >, <, or = to make a true sentence.**

25. 1.5 ● 15%                      26. 0.88 ● 8.8%                      27. 33% ● 0.33
28. 90% ● 0.09                      29. 0.26 ● 27%                      30. 65.4% ● 0.645

**ANALYZE TABLES** For Exercises 31–33, use the table and the information given.

The table lists the approximate milk fat content of 5 types of milk products.

31. Which product has the highest milk fat content?

32. Find the approximate number of grams of milk fat in a 200-gram serving of whole milk.

33. Which milk product will have approximately 15.36 grams of milk fat in an 80-gram serving?

Milk Product	Percent Milk Fat
Heavy Cream	36.7%
Light Cream	19.2%
Whole Milk	3.5%
Low-Fat Milk	1.5%
Skim Milk	0.05%

**7-7****Study Guide and Intervention****Sales Tax and Discount**

**Sales tax** is a percent of the purchase price and is an amount paid in addition to the purchase price.  
**Discount** is the amount by which the regular price of an item is reduced.

**Example 1** **SOCCER** Find the total price of a \$17.75 soccer ball if the sales tax is 6%.

**Method 1**

First, find the sales tax.

$$6\% \text{ of } \$17.75 = 0.06 \cdot 17.75 \\ \approx 1.07$$

The sales tax is \$1.07.

Next, add the sales tax to the regular price.

$$1.07 + 17.75 = 18.82$$

The total cost of the soccer ball is \$18.82.

**Method 2**

$$100\% + 6\% = 106\% \quad \text{Add the percent of tax to 100\%.}$$

The total cost is 106% of the regular price.

$$106\% \text{ of } \$17.75 = 1.06 \cdot 17.75$$

$$\approx 18.82$$

**Example 2** **TENNIS** Find the price of a \$69.50 tennis racket that is on sale for 20% off.

First, find the amount of the discount  $d$ .

$$\underbrace{\text{part}} = \underbrace{\text{percent}} \cdot \underbrace{\text{whole}}$$

$$d = 0.2 \cdot 69.50 \quad \text{Use the percent equation.}$$

$$d = 13.90 \quad \text{The discount is } \$13.90.$$

So, the sale price of the tennis racket is \$69.50 – \$13.90 or \$55.60.

**Exercises**

**Find the total cost or sale price to the nearest cent.**

- |                                |                                     |
|--------------------------------|-------------------------------------|
| 1. \$22.95 shirt; 7% sales tax | 2. \$39.00 jeans; 25% discount      |
| 3. \$35 belt; 40% discount     | 4. \$115.48 watch; 6% sales tax     |
| 5. \$16.99 book; 5% off        | 6. \$349 television; 6.5% sales tax |

**7-7****Practice*****Sales Tax and Discount***

**Find the total cost or sale price to the nearest cent.**

1. \$18 haircut; 10% discount    2. \$299 lawn mower; 5% tax    3. \$9.99 meal; 25% discount

4. \$149 guitar; 20% discount

5. \$15.75 music CD; 4% tax

6. \$24 gym bag; 8% tax

7. \$32.88 jacket; 50% discount

8. \$3.45 coffee; 33% discount

9. \$9.99 chair;  $8\frac{1}{2}\%$  tax

**Find the percent of discount to the nearest percent.**

10. bracelet: regular price, \$23  
sale price, \$13.80

11. bicycle: regular price, \$119  
sale price, \$79

12. **TICKETS** State residents get discounts at various theme parks throughout the state. One theme park charges a state resident \$51.70 for a \$58.75 regular adult admission ticket. What is the percent discount?

13. **TRUCKS** What is the sales tax on a \$17,500 truck if the tax rate is 6%?

**COMPUTERS** For Exercises 14–16, use the following information.

Lionel is buying a computer that normally sells for \$890. The state sales tax is 6%.

14. What is the total cost of the computer including tax?

15. If the computer is on sale with a 10% discount, what is the sale price of the computer before adding the sales tax?

16. What is the sales tax on the discounted price?

**7-8****Study Guide and Intervention****Simple Interest**

**Simple interest** is the amount of money paid or earned for the use of money. To find simple interest  $I$ , use the formula  $I = prt$ . Principal  $p$  is the amount of money deposited or invested. Rate  $r$  is the annual interest rate written as a decimal. Time  $t$  is the amount of time the money is invested in years.

**Example 1** Find the simple interest earned in a savings account where \$136 is deposited for 2 years if the interest rate is 7.5% per year.

$$I = prt \quad \text{Formula for simple interest}$$

$$I = 136 \cdot 0.075 \cdot 2 \quad \text{Replace } p \text{ with } \$136, r \text{ with } 0.075, \text{ and } t \text{ with } 2.$$

$$I = 20.40 \quad \text{Simplify.}$$

The simple interest earned is \$20.40.

**Example 2** Find the simple interest for \$600 invested at 8.5% for 6 months.

$$6 \text{ months} = \frac{6}{12} \text{ or } 0.5 \text{ year} \quad \text{Write the time as years.}$$

$$I = prt \quad \text{Formula for simple interest}$$

$$I = 600 \cdot 0.085 \cdot 0.5 \quad p = \$600, r = 0.085, t = 0.5$$

$$I = 25.50 \quad \text{Simplify.}$$

The simple interest is \$25.50.

**Exercises**

Find the interest earned to the nearest cent for each principal, interest rate, and time.

1. \$300, 5%, 2 years

2. \$650, 8%, 3 years

3. \$575, 4.5%, 4 years

4. \$735, 7%,  $2\frac{1}{2}$  years

5. \$1,665, 6.75%, 3 years

6. \$2,105, 11%,  $1\frac{3}{4}$  years

7. \$903, 8.75%, 18 months

8. \$4,275, 19%, 3 months

**7-8****Practice*****Simple Interest***

**Find the simple interest earned to the nearest cent for each principal, interest rate, and time.**

1. \$750, 7%, 3 years
2. \$1,200, 3.5%, 2 years
3. \$450, 5%, 4 months
4. \$1,000, 2%, 9 months
5. \$530, 6%, 1 year
6. \$600, 8%, 1 month

**Find the simple interest paid to the nearest cent for each loan, interest rate, and time.**

7. \$668, 5%, 2 years
8. \$720, 4.25%, 3 months
9. \$2,500, 6.9%, 6 months
10. \$500, 12%, 18 months
11. \$300, 9%, 3 years
12. \$2,000, 20%, 1 year

**13. ELECTRONICS** Rita charged \$126 for a DVD player at an interest rate of 15.9%. How much will Rita have to pay after 2 months if she makes no payments?

**14. VACATION** The average cost for a vacation is \$1,050. If a family borrows money for the vacation at an interest rate of 11.9% for 6 months, what is the total cost of the vacation including the interest on the loan?

**For Exercises 15–17, use the following information.**

Robin has \$2,500 to invest in a CD (certificate of deposit).

15. If Robin invests the \$2,500 in the CD that yields 4% interest, what will the CD be worth after 2 years?
16. Robin would like to have \$3,000 altogether. If the interest rate is 5%, in how many years will she have \$3,000?
17. Suppose Robin invests the \$2,500 for 3 years and earns \$255. What was the rate of interest?