

LESSON
5-3**Applications of Percent****Reteach**

For any problem involving percent, you can use a simple formula to calculate the percent.

$$\text{amount} = \text{percent} \times \text{total}$$

The amount will be the amount of tax, tip, discount, or whatever you are calculating. Use the formula that has your unknown information before the equal sign.

For simple-interest problems, time is one factor. So, you must also include time in your formula.

$$\text{amount (interest)} = \text{total (principal)} \times \text{percent (rate)} \times \text{time}$$

A. Find the sale price after the discount.

Regular price = \$899

Discount rate = 20%

You know the total and the percentage.
You don't know the discount amount.
Your formula is:

$$\begin{aligned}\text{amount} &= \% \times \text{total} \\ &= 0.20 \times \$899 \\ &= \$179.80\end{aligned}$$

The amount of discount is \$179.80.
The sale price is the original price minus the discount.

$$\$899 - \$179.80 = \$719.20$$

The sale price is \$719.20

B. A bank offers simple interest on a certificate of deposit. Jamie invests \$500 and after one year earns \$40 in interest. What was the interest rate on his deposit?

You know the total deposited—the principal.
You know the amount earned in interest. You don't know the percentage rate of interest. Since the time is 1 year, your formula is:

$$\begin{aligned}\% &= \text{amount} \div \text{total} \\ &= \$40 \div \$500 \\ &= 0.08 \\ &= 8\%\end{aligned}$$

The interest rate is 8%.

**Johanna purchases a book for \$14.95. There is a sales tax of 6.5%.
How much is the final price with tax?**

1. What is the total in this problem? _____
2. What is the percent? _____
3. Use the formula $\text{amount} = \text{total} \times \text{percent}$ to find the amount of the sales tax.

4. To find the final price, add the cost of the book to the amount of tax.

LESSON
5-3

Applications of Percent

Practice and Problem Solving: A/B

1. Complete the table.

Sale Amount	5% Sales Tax	Total Amount Paid
\$67.50		
\$98.75		
\$399.79		
\$1250.00		
\$12,500.00		

2. Complete the table.

Principal	Rate	Time	Interest Earned	New Balance
\$300	3%	4 years		
\$450		3 years	\$67.50	
\$500	4.5%		\$112.50	
	8%	2 years	\$108.00	

Solve.

3. Joanna wants to buy a car. Her parents loan her \$5,000 for 5 years at 5% simple interest. How much will Joanna pay in interest?

4. This month Salesperson A made 11% of \$67,530. Salesperson B made 8% of \$85,740. Who made more commission this month? How much did that salesperson make?

5. Jon earned \$38,000 last year. He paid \$6,840 for entertainment. What percent of his earnings did Jon pay in entertainment expenses?

6. Nora makes \$3,000 a month. The circle graph shows how she spends her money. How much money does Nora spend on each category?

- rent _____
- food _____
- medical _____
- clothes _____
- miscellaneous _____

