THINK AND DISCUSS
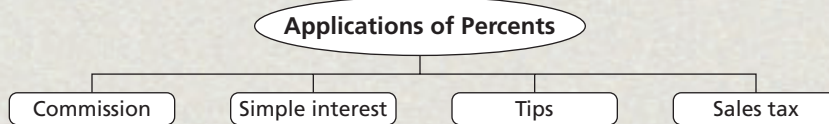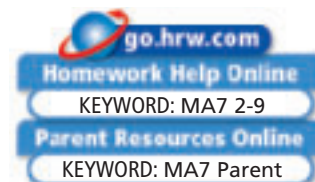
1. Explain how commission, interest, sales tax, and tips are alike.

2. When the sales tax rate is 8.25%, the tax on a $10 purchase is $0.83. Is the tax on $20 twice as much? Explain.

3. **GET ORGANIZED** Copy and complete the graphic organizer. In each box, write an example of each type of application and find the answer.

Applications of Percents

| Commission | Simple interest | Tips | Sales tax |

GUIDED PRACTICE

1. **Vocabulary** How are *commission* and *tips* alike? How are they different?

SEE EXAMPLE 1
p. 133

2. A sales representative earns a 2.5% commission on sales. Find the commission earned when the total sales are $80,700.

3. Karen earns a salary of $28,600 per year plus a 4.25% commission on sales. Find her total earnings for a year when the sales are $310,000.

SEE EXAMPLE 2
p. 133

4. Find the amount of simple interest earned after 2 years on $480 invested at a 7% annual interest rate.

5. Find the number of years it would take for $1200 to earn simple interest of $324 at an annual interest rate of 6% per year.

6. Find the total amount owed after 6 months on a loan of $900 at an annual simple interest rate of 8.5%.

SEE EXAMPLE 3
p. 134

7. Estimate a 15% tip on a $42.65 check.

8. Estimate the tax on a $198 stereo when the sales tax is 5.25%.

PRACTICE AND PROBLEM SOLVING

Independent Practice

For Exercises	See Example
9–10	1
11–13	2
14–15	3

Extra Practice
Skills Practice p. S7
Application Practice p. S29

9. A boat salesperson earns a 2.5% commission on the sale of each boat. Find the commission earned on a boat that sells for $18,500.

10. A cell phone distributor earns a yearly salary of $28,000 plus a 17.5% commission on sales. Find the total earnings for a year when the sales are $38,000.

11. Find the simple interest paid after 3 months on a loan of $9700 borrowed at an annual interest rate of 11%.

12. After 8 months, $750 simple interest was owed on a loan of $9000. Find the annual interest rate.

13. How long will it take $680 to earn $102 in simple interest at an annual interest rate of 3%?

14. Estimate the tip on a $19.65 check using a tip rate of 15%.

15. Estimate the tax on tires that cost $498 with a 6.25% sales tax.

Use $I = Prt$ to complete the table. All interest rates are annual.

	I	=	P	×	r	×	t
16.	▧		$8275		13%		3 years
17.	$3969		▧		10.5%		9 months
18.	$23.75		$950		▧		6 months
19.	$380		$4750		4%		▧

20. Chris has $21.50. He wants a book for $5.85 and a CD for $14.99. The sales tax is 6.25%.

a. How could Chris estimate whether he has enough to buy the book and the CD?

b. Does he have enough money to buy the book and the CD?

21. Technology An online auction company charges sellers a commission fee of 5.25% of an item's final selling price. If you sell an item for $55, what fee will you pay to the auction company? Show that your answer is reasonable.

22. Business Sometimes business partners do not share the ownership of a business equally. Instead, they each own a percent of the business, and each receives that percent of the profits. Alvarez, Brown, and Chow are partners in a business that earned $500,000. Alvarez owns 40% of the business. Chow received $175,000.

a. How much money did Alvarez and Brown each receive?

b. What percent of the business is owned by Brown? by Chow?

23. Write About It Lewis invested $1000 at 3% annual simple interest for 4 years. Lisa invested $1000 at 4% annual simple interest for 3 years. Explain why Lewis and Lisa earned the same amount of interest.

24. Critical Thinking To estimate a tip of 15%, Amy tips $1.00 for every $6.00 in the total bill. Is this method reasonable? Why or why not?

25. ///ERROR ANALYSIS/// Which solution is incorrect? Explain the error.

Ⓐ
4% of 240
0.4 • 240
96

Ⓑ
4% of 240
0.04 • 240
9.6

26. This problem will prepare you for the Multi-Step Test Prep on page 146.

a. Juan is shopping for a new CD player. He finds one he likes for $225. The sales tax is 7.5%. What will be the total cost of the CD player?

b. The salesperson tells Juan that a sale starts tomorrow, and the CD player will be reduced to $157.50. What is the total cost, including tax, that Juan will pay if he buys the CD player tomorrow?

c. How much will Juan save if he buys the CD player tomorrow?

Technology

Koopa is a Gulf Coast box turtle from Hartford, Connecticut. His paintings have sold for hundreds of dollars at online auctions.