## NAME

Module 4	Solving Problems Using Linear
	Equations of One Variable
Lesson 2	Solving Consumer/Business Problems
	Using Equations of One Variable



## Solve.

1. Carlos earns \$17.50 per hour. How many hours did Carlos work if he earned \$568.75?

**32.5** hours

**2.** A handyman charges \$25 for a service call, plus \$30 per hour. How many hours did the handyman work if his total charge was \$92.50?

2.25 hours

3. The sum of two consecutive integers is 47. What are the two integers?

23 and 24

4. The sum of three consecutive odd integers is -33. What are the three integers?

-9, -11, -13

**5.** A business must send 3% of its employees to a seminar. How many employees does a company have if it sends 15 employees?

### 500 employees

**6.** A company donates 4% of its profit to charity. What was the company's profit if it donated \$2,020 to charity?

#### \$50,500



- **1.** A student represented three consecutive odd integers as n, n + 1, and n + 3. Explain her mistake.
- **2.** A student was given the problem, "The sum of two consecutive integers is 23." He wrote and solved the equation x + x + 1 = 23. The student got x = 11 as the solution, and stated that 10 and 11 are the integers. Explain his mistake.
- **3.** Employees at a clothing store get a 20% discount on their purchases. To calculate what they will pay for a purchase, they can multiply the regular price by 0.8.
- Explain why this method works.
- **4.** The owner of a jewelry shop calculates the total price, including a 6% sales tax, by multiplying the regular price by 1.06. Explain why this method works.
- **5.** A store uses a 100% markup on all its goods. What does this mean?

Module 4 Lesson 2

#### Independent Practice

monotype composition

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## **Cumulative Review**

Solve.



# Calculator Problems Using the Percent Key

A business must send 3% of its employees to a seminar. How many employees does a company have if it sends 15 employees?

To solve the problem above using a scientific calculator use the following keystrokes.

1 5 ÷ 3	<b>2</b> nd	<b>%</b>	
Step 1: press 1	Step 5:	press the	2nd key
Step 2: press 5	Step 6:	press the	% key
Step 3: press ÷	Step 7:	press the	= key
Step 4: press 3			
So, the company has 300 employees			

## Use a scientific calculator to solve the following problems.

**1.** Shontisha earns 6% commission selling cellular phones. Her commission last week was \$94.26. What was the amount of her sales?

The amount of Shontisha's sales was \$1,571.

3. A company donates 2% of its yearly profit to charity. The company's yearly profit is \$64,000. What amount did the company donate to charity?

The company donated \$1,280 to charity.

2. The original price of a CD is \$17.99. A store is having a CD sale, each CD is 25% off. What is the cost of a CD, excluding tax?

The cost of one CD is \$13.49.

4. Taylor used a 15% off coupon to buy a jacket, she paid \$59.50. What was the price of the iacket before the discount?

The price of the jacket before the discount was \$70.00.

#### **Possible Journal Answers**

- 1. Any two consecutive odd integers differ by two. She should have used n, n + 2, and n + 4.
- 2. The student wrote and solved the equation correctly. However, he forgot that x represented the first of the two integers. The two integers are 11 and 12.
- 3. If p represents the regular price of the item, the price after the discount can be represented by the
- expression p 0.20p, which is equivalent to 0.8p.
- 2003 BestQuest 4. If p represents the regular price of the item, the price after tax is added can be represented by the
- expression p + 0.06p, which is equivalent to 1.06p.
- 5. A 100% markup means that the amount of the markup is the same as the wholesale cost. Therefore, the
- retail price is equal to twice the wholesale cost. The store doubles the wholesale cost to find the retail price. 0

Module 4 Lesson 2

Independent Practice