

### Problem 3.1 *continued*

- B** The equation  $D = 25 + 2.5t$  is related to situations that you have explored. In parts (1) and (2) below, the value of one variable in the equation is known. Find the solution (the value of the unknown variable) in each part. Then, describe another way you can find the solution.

1.  $D = 25 + 2.5(7)$

2.  $70 = 25 + 2.5t$

**A C E** Homework starts on page 69.

## 3.2 Mystery Pouches in the Kingdom of Montarek

### Exploring Equality

In the Kingdom of Montarek, money takes the form of \$1 gold coins called rubas. Messengers carry money between the king's castles in sealed pouches that always hold equal numbers of coins.



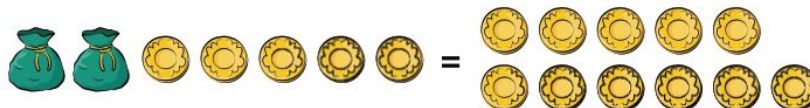
\$1 gold coin



sealed pouch

One day a messenger arrived at one of the castles with a box containing two sealed pouches and five loose \$1 coins. The ruler thanked the messenger for the money, which equaled \$11.

- Can you figure out the number of coins in each pouch?
- Does the following visual equation help in finding the number of coins in each pouch?



In this Problem, you will solve more problems involving mystery pouches.




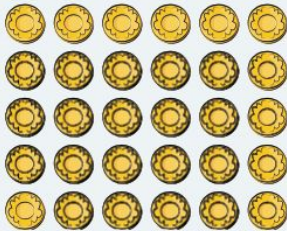
### Problem 3.2

- A** In parts (1)–(6) below, each pouch contains the same number of \$1 gold coins. Also, the total number of coins on each side of the equation is the same.
- Find the number of gold coins in each pouch. Write down your steps so that someone else could follow your steps to find the number of coins in a pouch.
  - Describe how you can check your answer. That is, how do you know you have found the correct number of gold coins in each pouch?

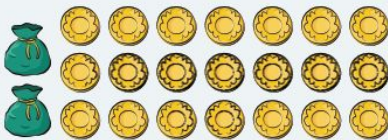

1.  = 

2.  = 

3.  = 

4.  = 

5.  = 

6.  = 

### Problem 3.2 *continued*

- B** In Question A, part (2), Nichole thought of the left-hand side of the situation as having two groups. Each group contained one pouch and two coins. She visualized the following steps to help her find the number of coins in a pouch.



1. Is Nichole correct? Explain.
2. Noah looked at Nichole's strategy and claimed that she was applying the Distributive Property. Is Noah's claim correct? Explain.
3. Are there other situations in which Nichole's method might work? Explain.

**A C E** Homework starts on page 69.