Chapter Review

Frequently Asked Questions

Q: How can you use variables and equations to solve a problem that involves a missing number?

A: First, decide what missing number the variable will represent. Write an equation to represent the problem, using a variable and the numbers in the problem. Use your equation to solve the problem.

For example, Kelly is saving for a computer game that costs $49. She already has $25. The variable m can represent the amount of money she still needs.

$25 + m = 49$
$25 + 24 = 49$, so $m = 24$

Kelly still needs $24 to buy the computer game.

Q: How can you solve an equation?

A: You need to determine the value of the variable that makes the equation true.

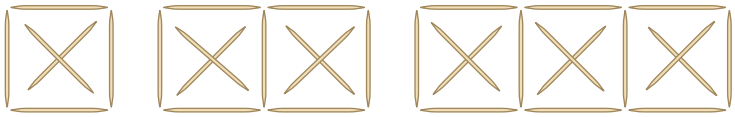
For example, to solve the equation $45 + f = 96$, you could use any of the following methods:

- Use guess and test to figure out the missing number that f represents.
- Use materials to represent the values. Count or add on to see what number must be added to 45 to reach 96.
- Subtract 45 from 96.

Practice

Lesson 1

1. Cole made this pattern with toothpicks.



shape 1 shape 2 shape 3

a) How many squares can he make with 31 toothpicks? Use a sketch or a model.

b) How many toothpicks will he need to make 10 squares? Use a table.

Lesson 2

2. At the start of a game, each player had 8 tokens and 6 cards.

a) Make a table to show the number of tokens and the number of cards for 1 to 4 players.

b) Write pattern rules for the patterns in your table.

c) 56 tokens were given out at the start of the game. How many people were playing the game?

Lesson 3

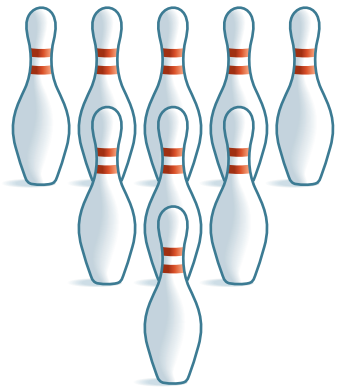
3. Grace had 1750 mL of juice. She poured 250 mL for each of her friends. She created the following pattern to show how much juice she used:

1750, 1500, 1250, 1000, …

a) Why do the numbers in Grace's pattern decrease by 250?

b) What is Grace's pattern rule?

c) Grace poured all the juice. How many friends had a glass of juice?



Lesson 5

4. Jacob set up bowling pins in a triangle, with one pin in the first row, three pins in the second row, five pins in the third row, and so on.

a) Extend the pattern. How many bowling pins are in the eighth row?

b) Use a pattern to show how many bowling pins there are, in total, in the eight rows. Write a number sentence to show the sum.

Lesson 6

5. Write an expression for each situation.

a) 22 more than a number

b) 35 less than a number

c) 13 less than a number

d) 56 more than a number

6. A Canadian squirrel's tail is about 10 cm longer than a raccoon's tail. Write two expressions to describe how the lengths of the tails are related. Use addition in one expression and subtraction in the other expression.

Lesson 7

7. Write a problem that can be solved using each equation below. Then use the equation to solve your problem.

a) $24 + h = 96$

b) $t - 12 = 33$

What Do You Think Now?

Look back at **What Do You Think?** on page 3. How have your answers and explanations changed?