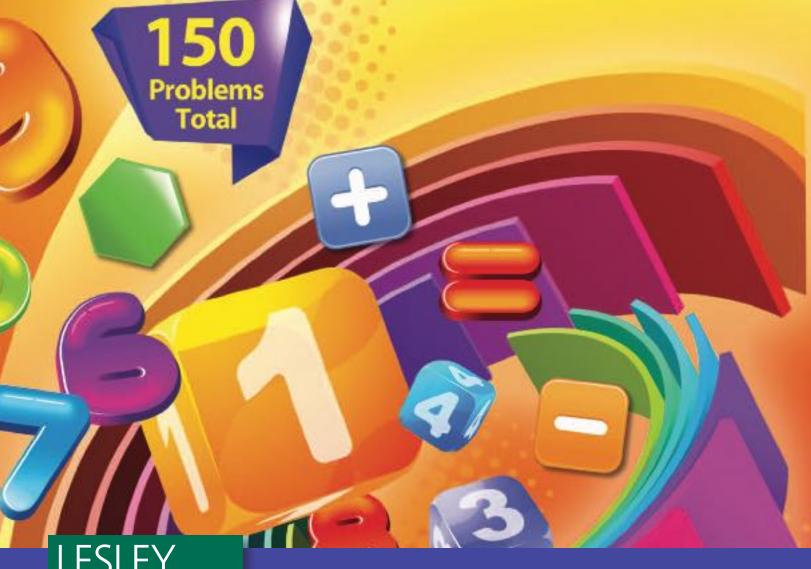


UNIVERSITY

Interactive Whiteboard-Compatible CD

Level

# Math Problems



**Linda Dacey** 

# **Table of Contents**

Introduction	
Problem Solving in Mathematics Instruction	5
Understanding the Problem-Solving Process	
Problem-Solving Strategies	
Ask, Don't Tell	
Differentiating with Leveled Problems	
Management and Assessment	. 18
How to Use This Book	. 22
Correlations to Standards	. 26
Leveled Problem-Solving Lessons	
Operations and Algebraic Thinking	
At the Farm	30
Stacks of Blocks	32
Draw and Count	34
Lots of Apples	36
Make It Equal	38
From the Garden	40
Smiley Cupcakes	42
A Day at the Beach	44
Figure It	46
At the Party Store	48
Get a Prize	50
On the Line	
Which Numbers?	
Toss It	
Where Did You Start?	
Ask a Question	
How Many Animals?	
How Many Pennies?	64
Number and Operations in Base Ten	
Hands, Toes, and Legs	
Show It	
Sticker Stories	
Tile Patterns	
More or Less	
Shrinking Machines	

# Table of Contents (cont.)

Nι	umber and Operations in Base Ten (cont.)	
	T-Shirt Numbers	80
	June Birthdays	82
	What Did You Buy?	84
	Ring Toss	86
	Favorite Numbers	88
	What Is the Number?	90
	Number Groups	92
Me	easurement and Data	
	How Long?	94
	Find lt	96
	Rod Lengths	98
	What Time?	100
	What Happens?	102
	Finding Favorites	104
	Make a Graph	106
	Point Totals	108
	What Do We Know?	110
	First Names	112
Ge	eometry	
	What Shape Is Next?	114
	What Shape Am I?	116
	Build a Design	118
	Make It	120
	What Comes Next?	122
	Shape Creatures	
	Venn Diagram	
	Tasty Treats	128
Appei	ndices	
	Appendix A: Student Response Form	130
	Appendix B: Individual Observation Form	131
	Appendix C: Group Observation Form	132
	Appendix D: Record-Keeping Chart	133
	Appendix E: Answer Key	134
	Appendix F: References Cited	139
	Appendix G: Contents of the Teacher Resource CD	140

# What Shape Am 1?

### Standards

- Understands basic properties of simple geometric shapes and similarities and differences between simple geometric shapes
- Uses the names of simple geometric shapes to represent and describe real-world situations

#### **Overview**

Students are given pictures of shapes and clues about one of the shapes. The students use the clues to identify one of the shapes.

# **Problem-Solving Strategy**

Use logical reasoning

#### **Materials**

- What Shape Am I? (page 117; shapeam.pdf)
- Student Response Form (page 130; studentresponse.pdf) (optional)

#### **Activate**

- 1. Ask students what they can tell you about a triangle.
- 2. Draw a picture of a triangle, square, and a rectangle. Tell students that you are thinking of one of these shapes and that vou will give them clues to help them determine which one it is. Tell them that the figure has four sides. Have students tell what they know about your shape from the clue. Model crossing off the triangle to show that it is no longer a possibility. Then, say All of my sides have the same length. Again, have students tell you what they know and model crossing off the rectangle. Emphasize the importance of checking their thinking. Say Let's check the square with the two clues. Does it have four sides? Do each of its sides have the same length?

## Solve

**1.** Distribute copies of *What Shape Am I?* to students. Have students work alone or in pairs.

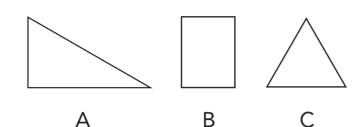
2. As students work ask them to identify each shape in the problem. Listen to the language they use to describe the figures that are not in traditional positions. For example, rather than a *triangle*, some students refer to an *upside-down triangle* when the base is not parallel to the bottom of the page. In the third problem, how do they talk about the pentagon or trapezoid?

## Debrief

- 1. Which shape did you identify?
- **2.** How did you keep track of what you learned from the clues?
- 3. How did you check your work?

# Differentiate $\bigcirc \square \triangle \Leftrightarrow$

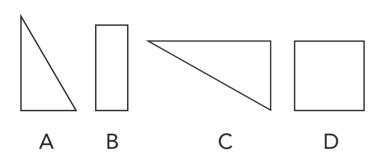
Whenever possible, pair readers who will need some help with those who are more independent in their reading. You may want some emerging readers to work with you in a small group so that you can help them read the clues.



I have three sides.

All of my sides have the same length.

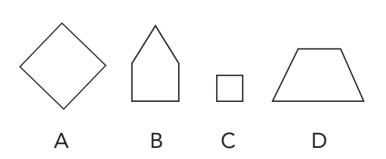
What shape am I? Write the letter of the shape.



I am not a triangle.

All of my sides are not the same length.

What shape am I? Write the letter of the shape.



I have four sides.

I am not a square.

What shape am I? Write the letter of the shape.