

2

## CLASSROOM LESSON: INTRODUCING THE TANGRAM

Give each student a set—and encourage them to experiment with the pieces. An overhead projector is nice for demonstration; you don't need any special overhead materials as a set of tangrams will project a shadowed outlined of each of the seven pieces.

### MATERIALS:

Set of tangrams for yourself and each student (use the pattern on page 45 if you need to make them); overhead projector (optional)

### GETTING TO KNOW THE PIECES

1. How many pieces are there in your puzzle? Sort the pieces into groups by shape. Sort by the number of sides. How many squares are there? Triangles? Which is the parallelogram? (Give students time to answer, then show the answers).
2. How are the various pieces alike? How are they different? Look at the square. What do you notice about its corners? Can you find a triangle which has a square corner? (Demonstrate by putting one piece on top of another).
3. Can you find a side of a triangle which is the same length as the sides of the square? (Move the two sides together to show they are the same).

### MAKING NEW SHAPES

Use two of your pieces to make the square. Make a square from two other pieces. Make a parallelogram. Use two of the pieces to make a figure which is the same as another of your pieces. Use three pieces to make a house-shaped pentagon. Make a cat with your pieces.

### OVERHEAD PROJECTOR FIGURES

1. (Turn off the overhead, make a shape with three of your pieces and then turn it back on). Make this same shape. (If students have trouble, move the shapes slightly apart to reveal the three pieces).
2. (Continue to make shapes and ask students to duplicate them. It will become more difficult as you increase the number of pieces you use. See the Task Cards on pages 35–41 for interesting figures for the students to solve).

# USING TANGRAMS

Materials:

Tangram Sets








Activity sheets

Directions:

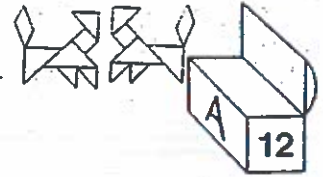
1. Sort the pieces into similar (same shape with corresponding sides proportional) and congruent (same size and shape) shapes. How many shapes are the same size? How many shapes are the same shape but differ in size?
2. Take the two small congruent triangles and see what other shapes you can create with them. Are any of these new shapes congruent to other tangram pieces? Which ones?
3. Is it possible to form many squares using different combinations of tangrams pieces? Try it. Try to make other shapes. Record your answers by completing the chart on the next page.

# TANGRAM SHAPE SHEET

Which shapes can you make with your tangram pieces? Draw a sketch of your solution.

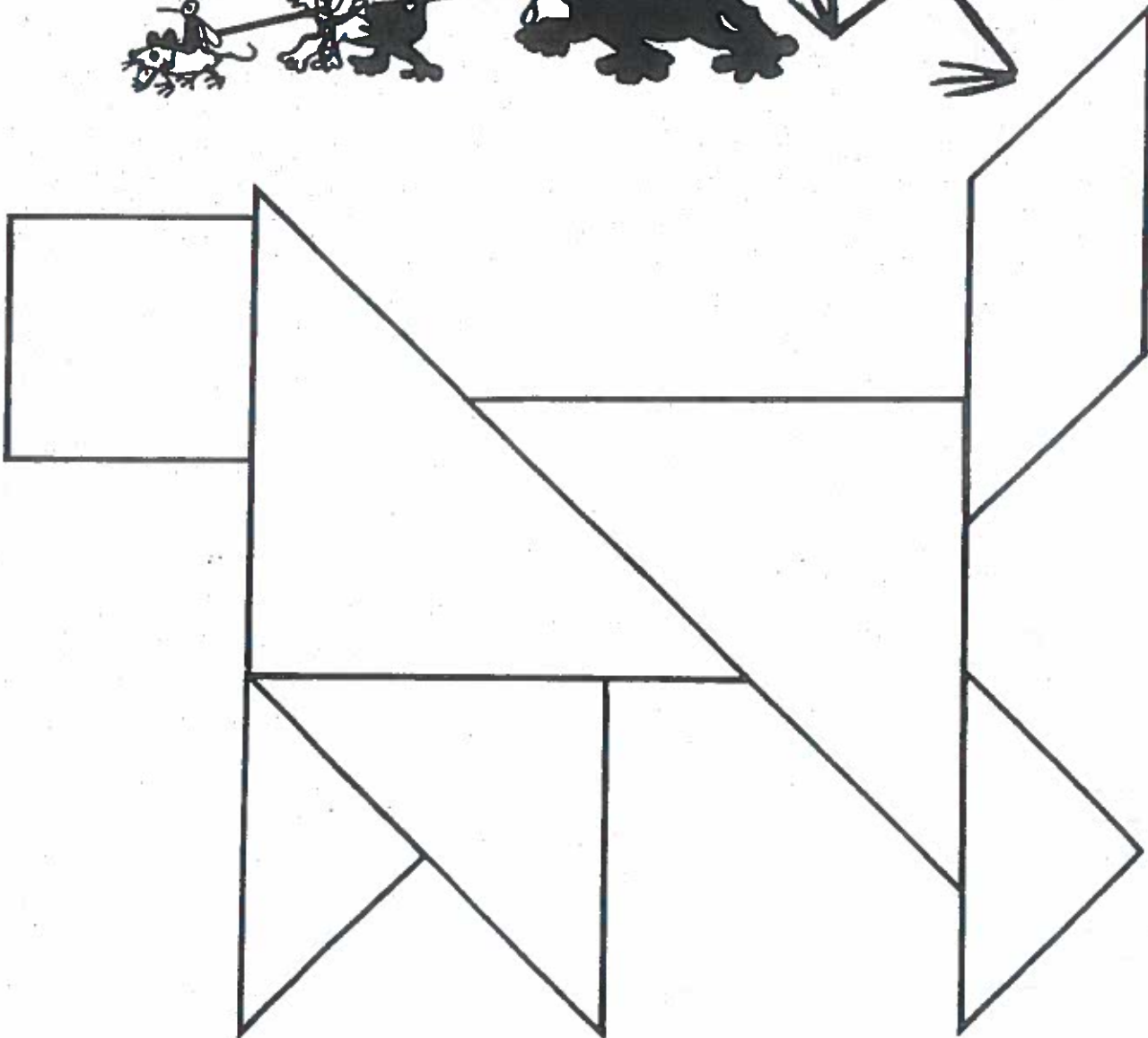
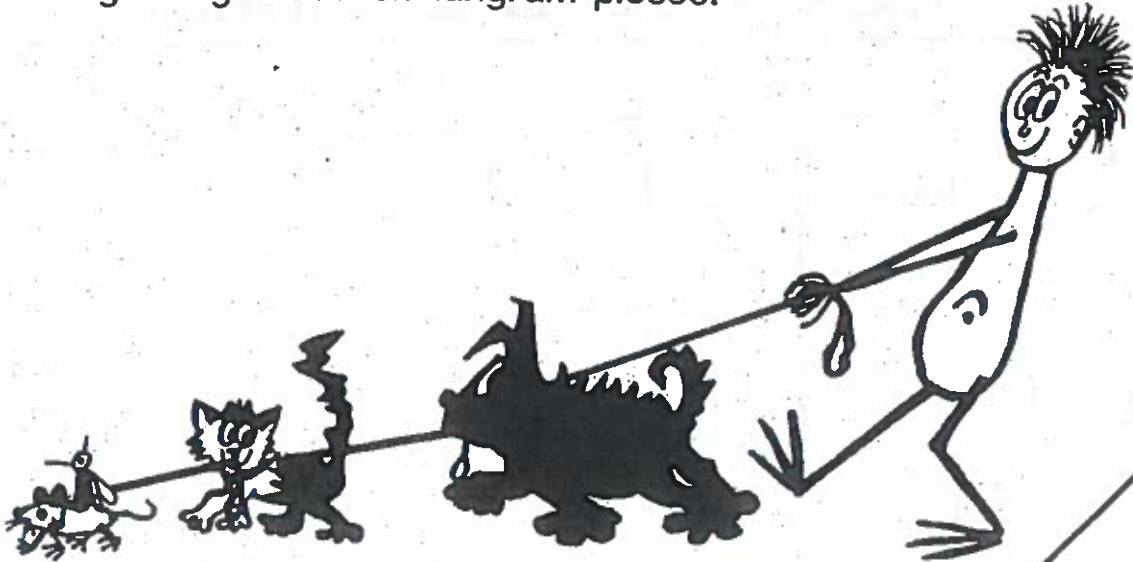
Number of pieces used \ Shape Made	1	2	3	4	5	6	7
 Square							
 Triangle							
 Rectangle							
 Trapezoid							
 Parallelogram							
 Rhombus							
 Pentagon							
Other							

NAME \_\_\_\_\_

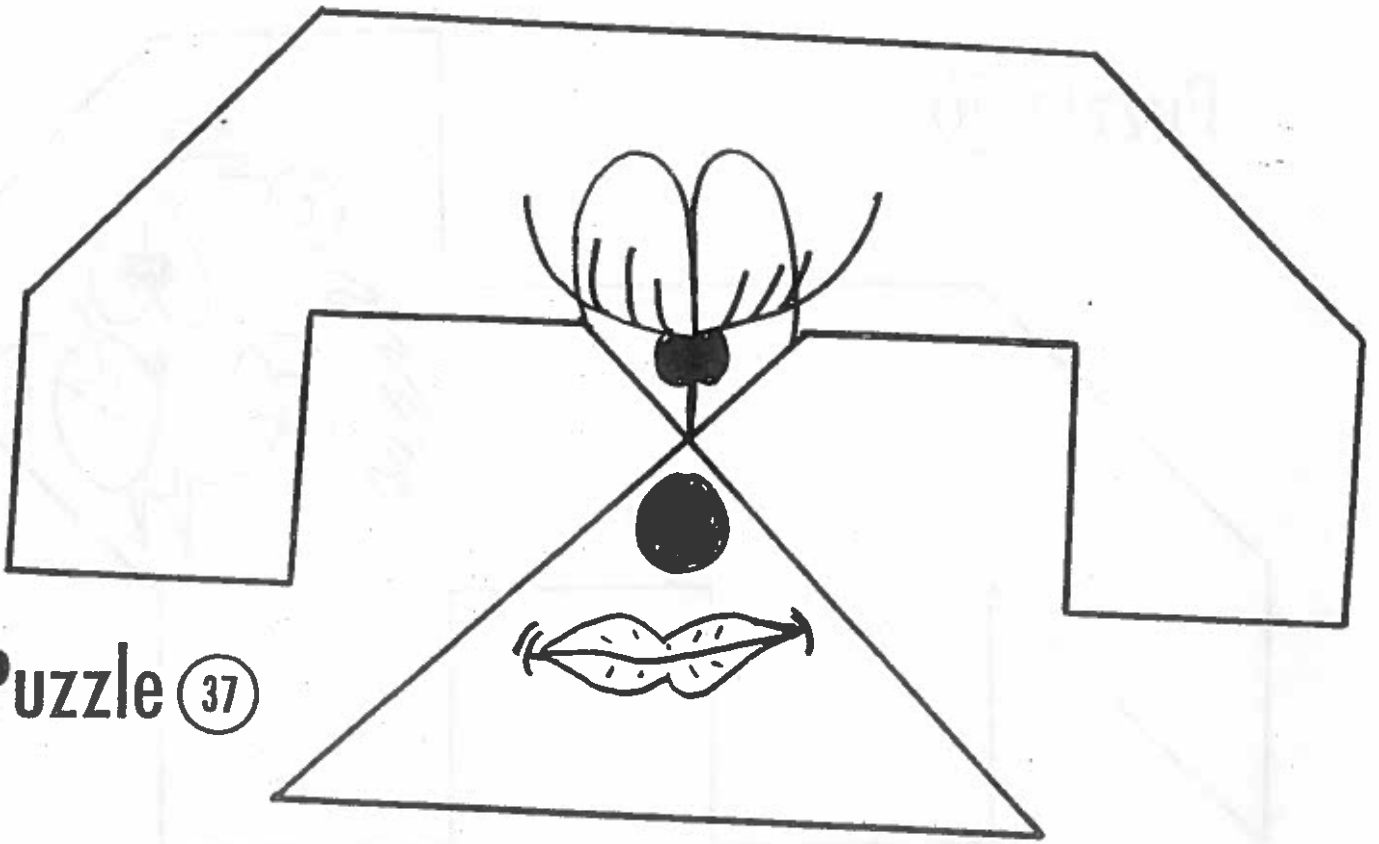


# A DOG-GONE PUZZLE

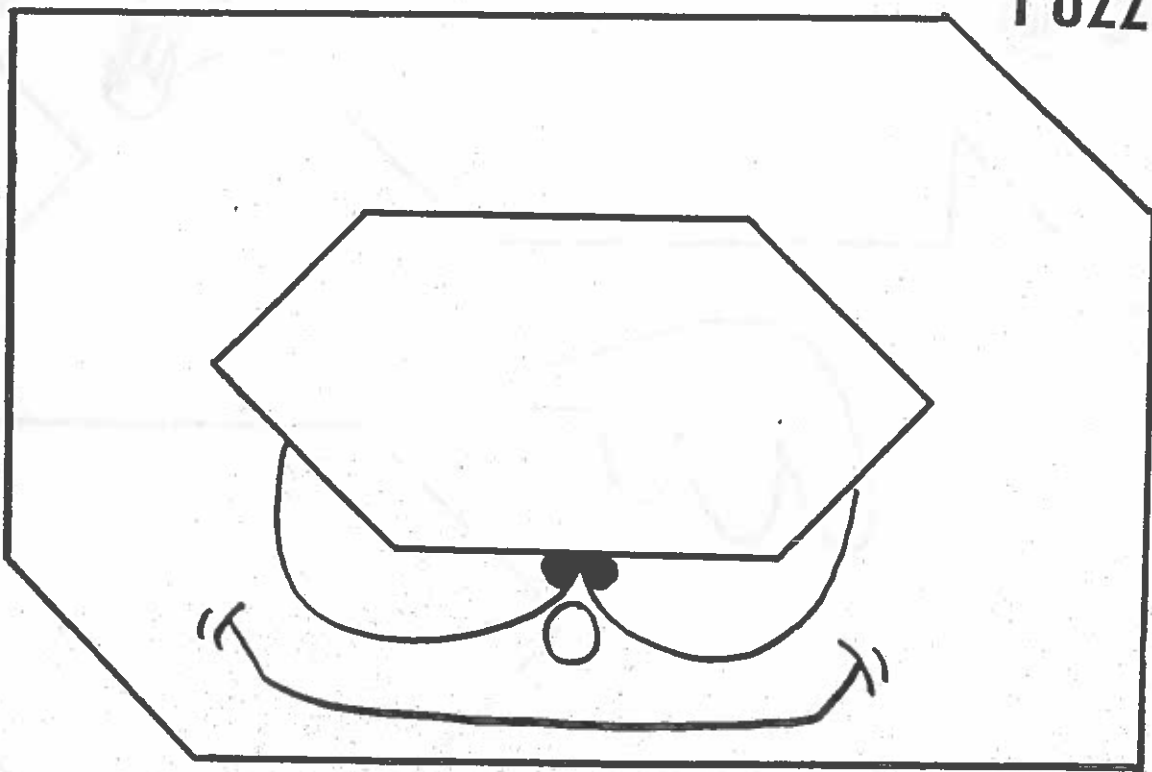
Cover the dog using all seven tangram pieces.



**CHALLENGE:** Make something else with your pieces. Ask a friend to guess what it is.

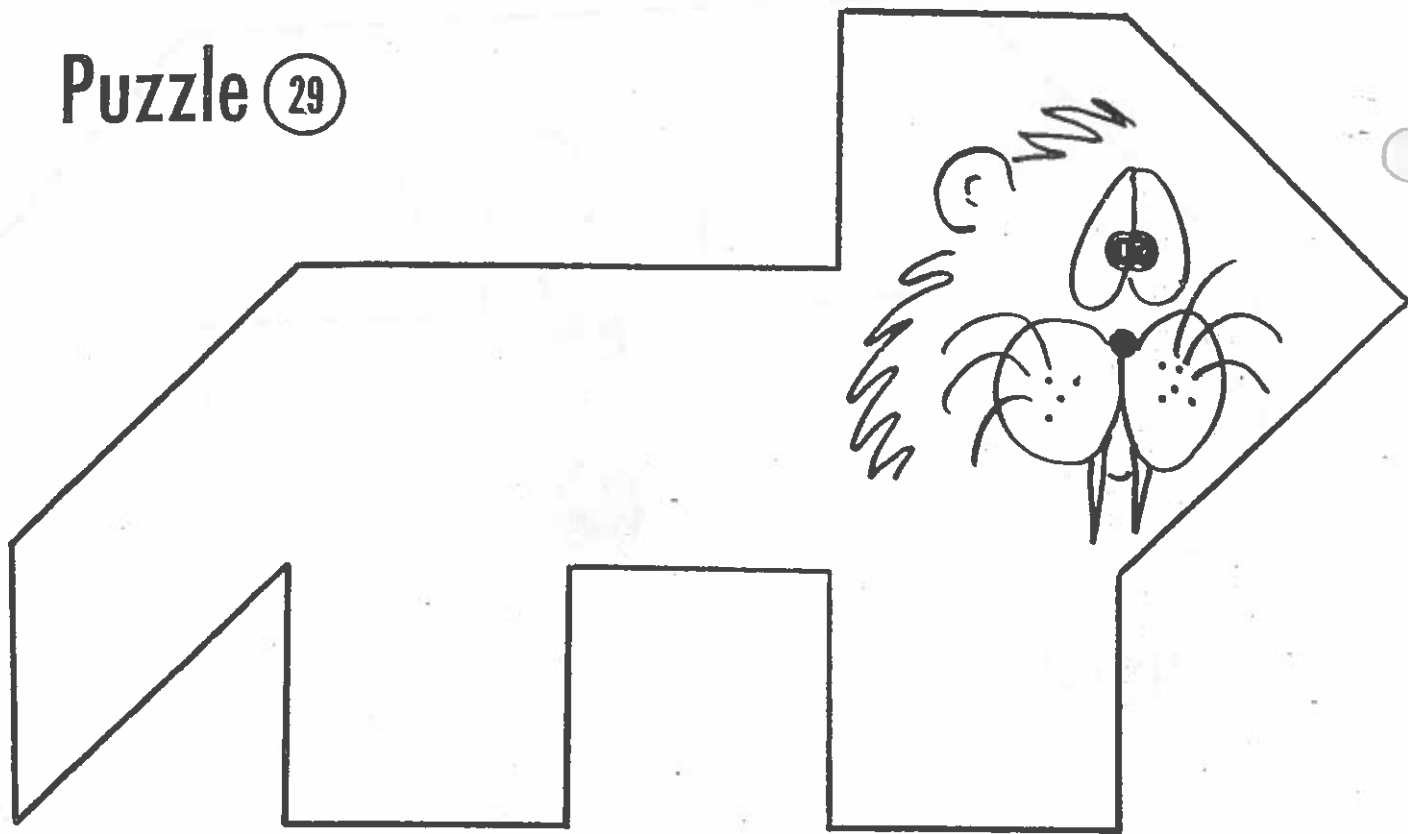


Puzzle (37)



Puzzle (38)

Puzzle 29



Puzzle 30

