

# ACTIVITY 1.4

## Developing Concepts

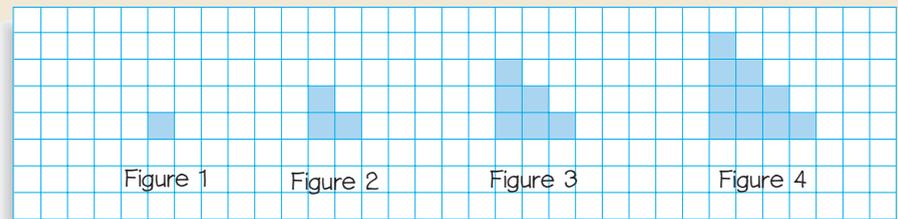
Group Activity for use with Lesson 1.4

### Finding Patterns

**QUESTION** How can you use algebra to describe a pattern?

#### EXPLORING THE CONCEPT

1 Copy the first four figures on graph paper. Then draw the fifth and sixth figures of the sequence.



2 The table shows the mathematical pattern for the perimeters of the first four figures. Copy and complete the table.

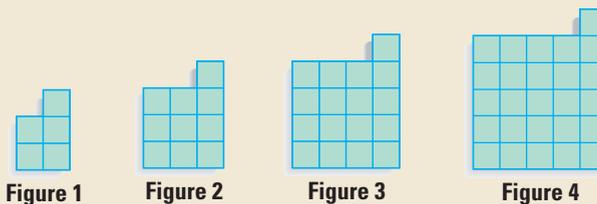
<b>Figure</b>	1	2	3	4	5	6
<b>Perimeter</b>	4	8	12	16	?	?
<b>Pattern</b>	$4 \cdot 1$	$4 \cdot 2$	$4 \cdot 3$	$4 \cdot 4$	$4 \cdot ?$	$4 \cdot ?$

3 Use the pattern in the table to predict the perimeter of the 25th figure.

4 What is the perimeter of the  $n$ th figure? Explain your reasoning.

#### DRAWING CONCLUSIONS

1. Copy the four figures shown below on graph paper. Then draw the fifth and sixth figures for the sequence.



2. Calculate the perimeters for all six figures. Organize your results in a table.

3. What is the perimeter of the  $n$ th figure? Explain your reasoning.

4. Repeat Exercises 1–3 for the sequence below.

