

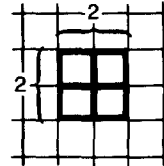
Another Look

For use with Lesson 1-3.

Exponents

Materials grid paper, scissors

1. The figure shows a square that represents 2^2 .
How many groups of two boxes are there?



2. Outline squares on grid paper to represent the squared numbers in the chart. Complete the chart. The standard numeral is the product of the factors. It is the total number of boxes in the square.

2^2 ← exponent: the number of times the base is used as a factor
↑
base

Exponential Form	2^2	3^2	4^2	5^2	6^2	7^2	8^2
Factors	2×2	3×3	_____	_____	_____	_____	_____
Standard Numeral	4	_____	_____	_____	_____	_____	_____

3. Cut out each square. Place the square showing 2^2 on top of the square showing 3^2 . Line up a corner and two edges.

How many more units were needed to complete the larger square? _____

Find the difference in the number of units between each square and the next square. Write the differences in order from least to greatest. _____

Find the pattern in the number of units needed for each larger square.

4. Consider the number 1^2 .

Does the standard numeral fit the pattern?

5. Can 3^3 be represented by a rectangle? Tell why or why not.

Which figure is the best way to show 3^3 ?

