Name _____ Date _____

Lesson 3   Reteach

Powers and Exponents

A product of identical factors can be written by using an *exponent* and a *base*. The base is the number used as a factor. The exponent indicates how many times the base is used as a factor.

$$2 \times 2 \times 2 = 2^3 \longleftarrow \text{exponent}$$

base

Numbers expressed with exponents are called *powers*.

Powers	Words	Expression	Value
4^2	4 to the second power or 4 squared	4×4	16
5^6	5 to the sixth power	$5 \times 5 \times 5 \times 5 \times 5 \times 5$	15,625
7^4	7 to the fourth power	$7 \times 7 \times 7 \times 7$	2,401
9^3	9 to the third power or 9 cubed	$9 \times 9 \times 9$	729

Write each product using an exponent.

1. $3 \times 3 \times 3 =$ _____

2. $2 \times 2 \times 2 \times 2 \times 2 =$ _____

3. $9 \times 9 =$ _____

4. $5 \times 5 \times 5 =$ _____

5. $10 \times 10 =$ _____

6. $3 \times 3 \times 3 \times 3 =$ _____

Write each power as the product of the same factor. Then find the value.

7. $7^2 =$ _____

8. $8^4 =$ _____

9. $2^8 =$ _____

10. $4^3 =$ _____

11. $5^5 =$ _____

12. $7^3 =$ _____

Write the prime factorization of each number using exponents.

13. $40 =$ _____

14. $100 =$ _____

15. $75 =$ _____

16. $147 =$ _____

Grade 5 • Chapter 2 Multiply Whole Numbers