Name _____ Date _____ Class _____

Skills Readiness
Exponents

Using an exponent is a shorthand way of writing out the multiplication of
the same number one or more times.

Understanding Exponents	Writing Exponents	Reading Exponents
An exponent tells how many times a base number (or variable) is used as a factor.	The base is written as a standard number (or variable). The exponent is written as a superscript.	The product of repeated factors is called a power. Read 6^5 as "6 raised to the fifth power" or the "fifth power of 6."
Example: In the expression 4^3, the base, 4, is a factor 3 times or $4 \cdot 4 \cdot 4$.	Examples: $6 \cdot 6 \cdot 6 \cdot 6 \cdot 6 = 6^5$ $g \cdot g \cdot g \cdot g = g^4$ $(-5) \cdot (-5) \cdot (-5) = (-5)^3$	Special cases: The second and third powers of numbers have special names: 7^2 can be read as "7 squared" and 9^3 can be read as "9 cubed."

Practice on Your Own
Write each expression as a multiplication of factors.

1. 9^4 _____

2. 1^5 _____

3. x^3 _____

4. 8^2 _____

5. $(-2)^3$ _____

6. p^6 _____

Write each expression using a base and an exponent.

7. $10 \cdot 10 \cdot 10 \cdot 10 \cdot 10 \cdot 10$ _____

8. $12 \cdot 12 \cdot 12 \cdot 12$ _____

9. $m \cdot m \cdot m \cdot m \cdot m$ _____

10. five raised to the sixth power _____

11. nine squared _____

12. p cubed _____

Check
Write each expression as a multiplication of factors.

13. 2^4 _____

14. $(-4)^2$ _____

15. h^5 _____

Write each expression using a base and an exponent.

16. $25 \cdot 25 \cdot 25$ _____

17. $s \cdot s \cdot s \cdot s$ _____

18. eight cubed _____

19. four raised to the first power _____

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