

Lesson 14 ~ Powers and Exponents

Name _____ Period _____ Date _____

Write the numerical expression as a power.

1. $4 \cdot 4 \cdot 4$

2. $(-7)(-7)(-7)(-7)(-7)$

3. $(1)(1)$

4. $(-2)(-2)(-2)(-2)$

5. $(5)(5)(5)(5)(5)(5)(5)$

6. $16 \cdot 16 \cdot 16$

Determine if the value of each power will be *positive* or *negative*.

7. 5^5

8. -17^6

9. -8^3

10. $(-5)^7$

11. $(-72)^4$

12. -11^8

Write each power in expanded form and find the value.

13. 9^2 Expanded Form: _____
Value: _____

14. $(-2)^4$ Expanded Form: _____
Value: _____

15. $(\frac{3}{4})^2$ Expanded Form: _____
Value: _____

16. 4^3 Expanded Form: _____
Value: _____

17. 1^4 Expanded Form: _____
Value: _____

18. $(-3)^3$ Expanded Form: _____
Value: _____

19. $(-5)^2$ Expanded Form: _____
Value: _____

20. $(\frac{1}{2})^3$ Expanded Form: _____
Value: _____

Complete each statement using $<$, $>$ or $=$.

21. -3^2 $(-3)^2$

22. 2^3 3^2

23. -1^4 -1^7

24. The volume of a cube can be calculated using the formula $length \times width \times height$.

a. Write the volume of the cube shown in expanded form.

b. Write the volume of the cube as a power.

c. Find the value of the volume of the cube.

