

Name _____

Exponents

Vocabulary

Complete using *exponent* or *base*.

1. A(n) _____ shows how many times a number called the _____ is used as a factor.

Write the equal factors. Then find the value.

2. 5^4

3. 10^5

4. 18^2

5. 2^6

6. 15^1

7. 4^3

Write in exponent form.

8. $1 \times 1 \times 1$

9. $n \times n \times n \times n$

10. $6 \times 6 \times 6 \times 6 \times 6$

11. $10 \times 10 \times 10 \times 10$

12. $y \times y$

13. $4 \times 4 \times 4 \times 4 \times 4 \times 4$

Express with an exponent and the given base.

14. 125, base 5

15. 256, base 4

16. 729, base 9

17. 64, base 2

18. 81, base 3

19. 1,000,000, base 10

Mixed Review

Use mental math to find the value.

20. $65 + 27$

21. $20 \times 14 \times 5$

22. $(9 \times 4) + (9 \times 6)$

23. $84 - 45$

24. $3 \times 3 \times 3 \times 3$

25. 7^2

Decompose and determine the value.

1. 12^3

2. 6^5

3. 0.27^2

4. 2.11^1

5. $\left(\frac{2}{3}\right)^4$

6. $\left(\frac{1}{12}\right)^3$

Recompose.

7. $\frac{1}{n} \times \frac{1}{n} \times \frac{1}{n} \times \frac{1}{n} \times \frac{1}{n}$

8. $2\frac{11}{17} \times 2\frac{11}{17} \times 2\frac{11}{17} \times 2\frac{11}{17} \times 2\frac{11}{17} \times 2\frac{11}{17} \times 2\frac{11}{17}$

9. $(p + 31) \times (p + 31) \times (p + 31)$