



Pre-Algebra: Exponents #3 (page 1)

Identify the base and the exponent.

a.) 9^3

b.) x^4

YOU MUST EXPAND to simplify. Look for patterns.

1. $2^1 \cdot 2^1 = 2^n$

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2. $2^2 \cdot 2^2 = 2^n$

2. _____

3. $2^3 \cdot 2^5 = 2^n$

3. _____

4. $7^0 \cdot 7^3 = 7^n$

4. _____

5. $\frac{4^5}{4^2} = 4^n$

5. _____

6. $\frac{5^5}{5^2} = 5^n$

6. _____

7. $\frac{5^2}{5^4} = 5^n$

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8. x^{-3} Write the power with a positive exponent.

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9. $x^5 \cdot x^{-3} = x^n$

9. _____

10. $x^6 \cdot x^0 = x^n$

10. _____

11. $\frac{x^4}{x^6} = x^n$

11. _____

12. What is the rule for:
multiplying a power times a power?

dividing a power by a power?

13. Repeated Addition is _____ and Repeated Multiplication is _____

14. Expand the following expressions to prove that the equations are true.

Expand $x^3 \cdot x^4$ to prove $x^3 \cdot x^4 = x^{3+4} = x^7$ Expand $\frac{x^5}{x^2}$ to prove $\frac{x^5}{x^2} = x^{5-2} = x^3$

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