



Pre-Algebra: Exponents #5 (page 1)

YOU MUST EXPAND to simplify. Look for patterns.

1. $(2^3)^3 = 2^n$ 1. _____
2. $(2^2)^4 = 2^n$ 2. _____
3. $(4^2)^3 = 4^n$ 3. _____
4. $(8^3)^2 = 8^n$ 4. _____
5. $(5^4)^2 = 5^n$ 5. _____
6. What is the rule for raising a power to a power? _____



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7. $x^{-6} \cdot x^4 = x^n$ 7. _____
8. $2^7 \cdot 2^0 = 2^n$ 8. _____
9. $3^3 \cdot 3^5 = 3^n$ 9. _____
10. $\frac{7^8}{7^2} = 7^n$ 10. _____
11. $\frac{10^4}{10^8} = 10^n$ 11. _____
12. $\frac{x^8}{x^5} = x^n$ 12. _____
13. $4^{-3} =$ _____ Do not leave your answer as a power.
14. $x^{-7} =$ _____ Write answer using a positive exponent.
15. Expand the following expressions to prove that the equations are true.
Expand $(x^3)^4$ to prove $(x^3)^4 = x^{3 \cdot 4} = x^{12}$

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