



## Pre-Algebra: Exponents #4 (page 1)

Identify the base and the exponent.

a.)  $x^3$

b.)  $2^x$

**YOU MUST EXPAND** to simplify. Look for patterns.ExpandRule

1.  $2^1 \cdot 2^6 = 2^n$

1. \_\_\_\_\_

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

2. \_\_\_\_\_

3.  $2^4 \cdot 2^2 = 2^n$

3. \_\_\_\_\_

4.  $7^0 \cdot 7^5 = 7^n$

4. \_\_\_\_\_

5.  $\frac{2^8}{2^2} = 2^n$

5. \_\_\_\_\_

6.  $\frac{6^7}{6^4} = 6^n$

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7.  $\frac{6^4}{6^7} = 6^n$

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Pre-Algebra: Exponents #4 (page 2)

8.  $x^{-2}$  Write the power with a positive exponent. 8. \_\_\_\_\_

9.  $x^{-2} \cdot x^3 = x^n$  9. \_\_\_\_\_

10.  $x^0 \cdot x^4 = x^n$  10. \_\_\_\_\_

11.  $\frac{x^8}{x^5} = x^n$  11. \_\_\_\_\_

12. What is the rule for dividing a power by a power? \_\_\_\_\_

13. Write the rule for:

multiplying a power times a power.

dividing a power times a power.

$$a^m \cdot a^n = a^{\text{?}}$$

$$\frac{a^m}{a^n} = a^{\text{?}}$$

14. Show that  $4^{-3} = \frac{1}{4^3}$ . (Hint: Use a table if necessary)

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