

Algebra I  
10.1 Warm-Up #2  
Properties of Exponents

NAME: \_\_\_\_\_  
DATE: \_\_\_\_\_ HOUR: \_\_\_\_\_

Complete the following properties:

1.  $x^a \cdot x^b =$                       2.  $(x^a)^b =$                       3.  $(x^a y^b)^c =$

Complete the following sentences:

4. Exponents represent repeated \_\_\_\_\_.
5. A variable without an exponent has the understood exponent of \_\_\_\_\_.
6. When you simplify a term that has more than one of the same base, you should \_\_\_\_\_ the exponents of that base.

example:  $x^2 \cdot x^4 \cdot y^3 \cdot y \cdot y^5 = x^{\square} y^{\square}$

7. When you raise an exponent to another power you should \_\_\_\_\_ the exponents.

example:  $(x^4)^3 = x^{\square}$

over

**Multiply.**

1.  $a \cdot a^2$

2.  $b^2 \cdot b^2$

3.  $x^2 \cdot 3x$

4.  $x^4 \cdot x$

5.  $n^3 \cdot n^4$

6.  $a^6 \cdot a$

7.  $(2x)(2x^2)$

8.  $(3x)(-2x^4)$

9.  $(c^2)(-5c^3)$

10.  $(ab)(a^2b)$

11.  $(3x^2)(-2x^5)$

12.  $(-y^2)(-y^7)$

**Simplify.**

1.  $(x^2)^3$

2.  $(a^3)^4$

3.  $(b^6)^2$

4.  $(x^2)^5$

5.  $(c^3)^5$

6.  $(n^4)^{10}$

7.  $(2x)^2$

8.  $(4a)^2$

9.  $(ab)^4$

10.  $(xy)^6$

11.  $(6ax)^2$

12.  $(-2xy)^3$

**Multiply.**

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3.  $x^2 \cdot 3x$

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