Name_____Date_____Period _____

Laws of Exponents Lesson Assignment

Simplify.

1. $a^2 \cdot a^3 \cdot a^6$

2. $(cd^2)(c^3d^6)$

3. $(3p^4)(4p^2)$

4. $(x^2y^4)(x^6y^5z)$

5. $-4(-6x^6y^3)(y)$

6. $5x^2(7x^2)$

Solve.

7. Eric studies $(2xy^3)$ hours for $(-2x^2y^4)$ days. How many hours did Eric study?

8. Find the area of a rectangle with a length of $(8m^3)$ and a width of $(4x^2m^4)$.

9. How much does Christy make if she earns $\$(3x^3y)$ for braiding $(-4x^5y^2)$ heads of hair?

Simplify.

10. $\dfrac{3x^6}{x^3}$

11. $\dfrac{-x^5y^{-2}}{x^3y^2}$

12. $\dfrac{(-x)^3y^5}{xy^{-2}}$

13. $\dfrac{-x^7y^{-8}}{-x^2y}$

14. $\left(\dfrac{3x^{10}y^{11}}{x^{10}y}\right)^0$

15. $\dfrac{x^{-3}y^6}{x^{-5}y}$

Solve.

16. The area of a rectangle is $(32x^4y^{10})$. If the length of the rectangle is $(2xy^3)$, find the width.

17. The volume of a rectangular prism is $(100x^{18}y^{12}z^2)$. If the length of the prism is $4x^2y^2$ and its width is $(5x^8y^7z^{-2})$, find the height of the prism.