

Math 2 Unit 8 Worksheet 1
Properties of Exponents

Name: _____
Date: _____ **Per:** _____

[1-3] Expand and evaluate.

1. 4^3

2. 2^5

3. 3^4

[4-6] Rewrite each expression using only one base. You do not need to work out the final answer.

4. $3^2 \cdot 3^5$

5. $11^4 \cdot 11 \cdot 11^2$

6. $5^7 \cdot 5^{-4} \cdot 5^2$

[7-21] Simplify each expression.

7. $(7a^2)(3a^4)$

8. $(-4xy^2)(15x^4y^5)$

9. $4k(7j^2k^3)$

10. $b^2c \cdot a^2b^5c^3 \cdot a^4c^7$

11. $12m^5(m^{-3}n^5)$

12. $(6p^2q)(-4p^2q^4)$

13. $(a^2)^4$

14. $(k^{-1})^{-3}$

15. $(2x)^4$

16. $(5z^5)^0$

17. $(5^2h^3)^2$

18. $(3x^2y)^5$

19. $(7g^4h^0)^3$

20. $4jk^2(2j^4)^3$

21. $(-6a^2b)^2(-3b)$

[22-30] Simplify each expression. Write the final answer using only positive exponents.

22. $\frac{w^8}{w^3}$

23. $\frac{x^8y^6}{x^2y^4}$

24. $\frac{a^3b^7}{a^9b^4}$

25. $\left(\frac{m}{n}\right)^3$

26. $\frac{y^3}{y^{10}}$

27. $\left(\frac{xy^7}{x^5y^3}\right)^3$

28. $7x^{-1}$

29. $(2x)^{-1}$

30. $-3x^{-2}$

[31-32] True or False.

31. Is $(y^m)^n = (y^n)^m$ a true statement? Pick values for y , m and n to show your answer is correct.

32. Is $x^4x^3 = (x^4)^3$ a true statement? Pick values for x to show your answer is correct.