

Algebra 1

Unit 7 Exponent Rules Worksheet #2

Simplify each expression below using exponent rules. Your final answer should not include any negative exponents. You MUST show work in order to receive credit.

1. $x^5 \cdot x^2$	2. $y^3 \cdot y \cdot y^4$	3. $b^4 \cdot b^{-4}$
4. $7x^3y^2 \cdot 5xy^9$	5. $a^{10} \cdot a^2 \cdot a^{-6}$	6. $(z^5)^5$
7. $(b^7)^2$	8. $(m^{-8})^{-3}$	9. $(x^2y^4m^3)^8$
10. $(3x^2)^4$	11. $(2ab)^5$	12. $(2x^3y)^6$
13. $(m^7)^4 \cdot m^3$	14. $p^2 \cdot (p^5)^2$	15. $\frac{x^5}{x^2}$
16. $\frac{c^4}{c^8}$	17. $\frac{5x^{-4}}{x^{-9}}$	18. $\frac{x^3 \cdot x^4}{x^2}$

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19. $\left(\frac{6}{z^4}\right)^3$	20. $\left(\frac{a^3}{b^5}\right)^4$	21. $\left(\frac{3x^4}{y^6}\right)^5$
22. $\left(\frac{m^4}{5n^9}\right)^3$	23. $\left(\frac{3x^7}{2y^{12}}\right)^4$	24. $(8m)^0$
25. $5x^0y^5$	26. $2x^{-2}$	27. $5m^{-3}n^4$
28. $3x^{-2}y^{-5}$	29. $(x^{-2}y^2)^{-3}$	30. $(4x^4y^{-3})^{-2}$
31. $(f^{-3}g^5h^8)^{-3}$	32. $(x^2)^4 \cdot 3x^5$	33. $(3x^3)^2 \cdot (2x)^3$

34. $(5x^2y^3)^2 \cdot (2x^3y^4)^3$	35. $\frac{x^8}{2y} \cdot \frac{5y^2}{x^3}$
36. $\frac{x^3y}{xy^5} \cdot \frac{x^2y^9}{x^8}$	37. $\left(\frac{r^2t^{-3}}{r^{-3}t^5}\right)^{-8}$
38. $\left(\frac{x^4y^{-7}}{x^{-2}y^4}\right)^2$	39. $\left(\frac{x^{-3}y^{-8}}{x^4y^{-2}}\right)^{-7}$
40. $\left(\frac{m^3p^5}{n^7}\right)^6 \cdot \left(\frac{m^2n^0p^3}{m^4n^2}\right)^3$	

BONUS: $(5x^7y^3z^{-1})^2 \cdot (2xy^{-5})^3 \cdot (2y^{-3}z^2)^3$