



Math on the Fly!



NAME: _____ DATE: _____

Rules of Exponents

Simplify each expression below.
Write your final answer using positive exponents.

1. $x^5 \cdot x^7 \cdot x$

2. $(x^{-6})(x^{10})(x^{-4})$

3. $x^2y^9 \cdot x^7y^5$

4. $x^6x^3 \cdot (x^6)^3$

5. $(4x^5y)(9x^3y^4)$

6. $(x^{-4})^3 \cdot (x^{-9})^{-2}$

7. $(x^9y^8z^7)^0$

8. $\frac{x^6y^4z^8}{x^6yz^3}$

9. $(2x^2yz^9)^5$

10. $\frac{x^4y^9x^7y^9}{y^2x^5y^6x^{10}}$

11. $\left(\frac{7x^4}{6y^7}\right)^2$

12. $\frac{u^{-1}v^{-2}w^4}{x^3y^9z^{-5}}$

13. $\frac{x^2}{x^7}$

14. $\left(\frac{2xy^4}{x^2y^7}\right)^3$

15. $\frac{x^{-2}}{x^{-7}}$

16. $\frac{x^{-7}}{x^2}$

17. $\frac{x^7}{x^{-2}}$

18. $\frac{x^{-7}}{x^{-2}}$

SOLUTIONS

1. x^{13}

2. 1

3. x^9y^{14}

4. x^{27}

5. $36x^8y^5$

6. x^6

7. 1

8. y^3z^5

9. $32x^{10}y^5z^{45}$

10. $\frac{y^{10}}{x^4}$

11. $\frac{49x^8}{36y^{14}}$

12. $\frac{w^4z^5}{uv^2x^3y^9}$

13. $\frac{1}{x^5}$

14. $\frac{8}{x^3y^9}$

15. x^5

16. $\frac{1}{x^9}$

17. x^9

18. $\frac{1}{x^5}$