

Rules for Exponents

Rules for Exponent	Examples
$x^m * x^n = x^{m+n}$	$5^2 * 5^3 = 5^{2+3} = 5^5$
$m^x * n^x = (m * n)^x$	$3^4 * 5^4 = (3 * 5)^4 = 15^4$
$\frac{x^m}{x^n} = x^{m-n}$	$\frac{3^4}{3^2} = 3^{4-2} = 3^2$
$\left[\frac{m}{n}\right]^x = \frac{m^x}{n^x}$	$\left[\frac{4}{6}\right]^3 = \frac{4^3}{6^3}$
$(m^x)^y = m^{x*y} = (m^y)^x$	$(4^2)^3 = 4^{2*3} = (4^3)^2$