Indices Law

	Laws	Example
1	$a^m * a^n = a^{m+n}$	$2^3 * 2^4 = 2^7$
2	$\frac{a^m}{a^n} = a^{m-n}$	$\frac{2^8}{2^6} = 2^2$
3	$(a^m)^n = a^{mn} = (a^n)^m$	$(5^5)^7 = 5^{35} = (5^7)^5$
4	$a^m * b^m = (ab)^m$	$2^3 * 3^3 = (2 * 3)^3 = 6^3$
5	$\frac{a^m}{b^m} = \left(\frac{a}{b}\right)^m$	$8^3 * 3^3 = \left(\frac{8}{3}\right)^3 = 6^3$
6	$a^0 = 1$	
7	$a^1 = a$	
8	$a^{-n} = \frac{1}{a^n}$ $a^n = \frac{1}{a^{-n}}$	$x^{-3} = 8 \rightarrow (x^{-3})^{-\frac{1}{3}} = 8^{-\frac{1}{3}} \rightarrow x = \frac{1}{\sqrt[3]{8}} \rightarrow x = \frac{1}{2}$
9	$a^{\frac{1}{n}} = \sqrt[n]{a}\,, a > 0$	
10	$a^{\frac{m}{n}} = \left(\sqrt[n]{a}\right)^m, a > 0$	$8^{\frac{2}{3}} = \left(\sqrt[3]{8}\right)^2 = 2^2 = 4$