

### Index Laws

1.  $a^m \times a^n = a^{m+n}$
2.  $a^m \div a^n = \frac{a^m}{a^n} = a^{m-n}$
3.  $(a^m)^n = a^{m \times n}$
4.  $(ab)^n = a^n b^n$
5.  $\left(\frac{a}{b}\right)^n = \frac{a^n}{b^n}$
6.  $a^0 = 1$
7.  $a^{-n} = \frac{1}{a^n}$
8.  $\sqrt[n]{a} = a^{\frac{1}{n}}$
9.  $\sqrt[n]{a^m} = a^{\frac{m}{n}}$

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