Laws of Indices

If m and n are positive integers, and $a \neq 0$, then

(i) $a^m \times a^n = a^{m+n}$ [Product Law]

(ii) $a^m \div a^n = a^{m-n}$ [Quotient Law]

(iii) $(a^m)^n = a^{mn}$ [Power Law]

(iv) $(ab)^m = a^m \cdot b^m$

(v) $a^{m/n} = (a^m)^{1/n} = \sqrt[n]{a^m}$

(vi) $a^0 = 1$

(vii) $a^{-1} = \dfrac{1}{a}$