

PROPERTIES OF EXPONENTS

$$a^{\textcolor{red}{n}}a^{\textcolor{blue}{m}} = a^{\textcolor{red}{n}+\textcolor{blue}{m}}$$

$$(a^{\textcolor{red}{n}})^{\textcolor{blue}{m}} = a^{\textcolor{red}{n}\textcolor{blue}{m}}$$

$$(ab)^{\textcolor{red}{n}} = a^{\textcolor{red}{n}}b^{\textcolor{red}{n}}$$

$$\left(\frac{a}{b}\right)^{\textcolor{red}{n}} = \frac{a^{\textcolor{red}{n}}}{b^{\textcolor{red}{n}}}$$

$$a^{-\textcolor{red}{n}} = \frac{1}{a^{\textcolor{red}{n}}}$$

$$\frac{1}{a^{-\textcolor{red}{n}}} = a^{\textcolor{red}{n}}$$

$$\frac{a^{\textcolor{red}{n}}}{a^{\textcolor{blue}{m}}} = a^{\textcolor{red}{n}-\textcolor{blue}{m}} = \frac{1}{a^{\textcolor{blue}{m}-\textcolor{red}{n}}}$$

$$\left(\frac{a}{b}\right)^{-\textcolor{red}{n}} = \left(\frac{b}{a}\right)^{\textcolor{red}{n}} = \frac{b^{\textcolor{red}{n}}}{a^{\textcolor{red}{n}}}$$

$$a^0 = 1, \text{ when } a \neq 0$$