

$$\frac{a}{c} + \frac{b}{c} = \frac{a+b}{c}$$

$$\frac{a}{c} + \frac{b}{d} = \frac{ad+bc}{cd}$$

$$\frac{a}{c} \cdot \frac{b}{d} = \frac{ab}{cd}$$

$$\frac{a}{c} \div \frac{b}{d} = \frac{a}{c} \cdot \frac{d}{b} = \frac{ad}{cb}$$

$$\frac{a}{b} = \frac{c}{d} \Leftrightarrow a = \frac{bc}{d} \Leftrightarrow ad = bc$$

$a^0 = 1$ $a^m \cdot a^n = a^{m+n}$ $(a^m)^n = a^{mn}$ $\frac{a^m}{a^n} = a^{m-n}$ $a^{-n} = \frac{1}{a^n}$ $(ab)^m = a^m b^m$ $\left(\frac{a}{b}\right)^m = \frac{a^m}{b^m}$	$\sqrt{xy} = \sqrt{x}\sqrt{y}$ $\sqrt{\frac{x}{y}} = \frac{\sqrt{x}}{\sqrt{y}}$ $\sqrt[n]{x} = x^{\frac{1}{n}}$ $\sqrt[n]{x^m} = x^{\frac{m}{n}}$
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$$(a-b)(a+b) = a^2 - b^2$$

$$a^2 - 2ab + b^2 = (a-b)^2$$

$$(a-b)^2 = a^2 - 2ab + b^2$$

$$a^2 + 2ab + b^2 = (a+b)^2$$

$$(a+b)^2 = a^2 + 2ab + b^2$$

$$a^2 - b^2 = (a-b)(a+b)$$

$$(a-b)^3 = a^3 - 3a^2b + 3ab^2 - b^3$$

$$a^3 - b^3 = (a-b)(a^2 + ab + b^2)$$

$$(a+b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$$

$$a^3 + b^3 = (a+b)(a^2 - ab + b^2)$$

$$x^2 + (a+b)x + ab = (x+a)(x+b)$$

$$\textcolor{red}{a}x^2 + \textcolor{blue}{b}x + \textcolor{green}{c} = 0 \Rightarrow x = \frac{-\textcolor{blue}{b} \pm \sqrt{\textcolor{blue}{b}^2 - 4\textcolor{red}{a}\textcolor{green}{c}}}{2\textcolor{red}{a}}$$