11. ఘాతాంకాలు

Exponents

* $a \times a = a^2$
* $a \times a \times a = a^3$
* $a \times a \times a \times a = a^4$
* $a^m \times b^m = (a \times b)^m$
* $a^m \times a^n = a^{m+n}$
* $(a^m)^n = a^{mn}$

* $3^2 = 3 \times 3 = 9$

$3^1 = 3$

$3^0 = 1$

$3^{-1} = \frac{1}{3}$

$3^{-2} = \frac{1}{3} \times \frac{1}{3} = \frac{1}{3^2}$

$\therefore a^{-n} = \frac{1}{a^n}$

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$$* \frac{a^3}{a^2} = \frac{\cancel{a} \times \cancel{a} \times a}{\cancel{a} \times \cancel{a}} = a^{3-2}$$

$$* \frac{a^2}{a^3} = \frac{\cancel{a} \times \cancel{a}}{\cancel{a} \times \cancel{a} \times a} = \frac{1}{a^{3-2}}$$

$$* \left[\frac{p}{q}\right]^3 = \frac{p}{q} \times \frac{p}{q} \times \frac{p}{q} = \frac{p^3}{q^3}$$

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* $(-1)^2 = (-1) \times (-1) = 1$

* $(-1)^3 = (-1) \times (-1) \times (-1) = -1$

* $946 \times 10^{15} = 9.46 \times 10^{17}$