6-1 Exponent Rules

p 323

Alg 2 std. 7.0

* $a^m \cdot a^n = a^{m+n}$
* $(a^m)^n = a^{mn}$
* $(ab)^m = a^m b^m$
* $\frac{a^m}{a^n} = \begin{cases} a^{m-n}, \text{ if } m>n \text{ and } a \neq 0 \\ \frac{1}{a^{n-m}}, \text{ if } n>m \text{ and } a \neq 0 \end{cases}$
* $\left(\frac{a}{b}\right)^m = \frac{a^m}{b^m}$, if $b \neq 0$
* $a^{-m} = \frac{1}{a^m}$ and $\frac{1}{a^{-m}} = a^m$, if $a \neq 0$
* $a^0 = 1$

$2^3 = 8 \quad 2^2 = 4 \quad 2^1 = 2$

$2^0 = 1$