**Rules for Exponents -- I want to be proficient!**

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| **Words** | **Rule** | **Example** |
| #1When the **base** is the same, x (multiply)…* **Add** the exponents
* Keep the base
 |  $a^{m}a^{n}= a^{m+n}$ |  |
| #2Raising **a power to a power**…* **Multiply** the exponents
* Keep the base
 | $\left(a^{m}\right)^{n}$ = $a^{m×n}$  |  |
| #3When the **base** is the same, ÷ (divide)…* **Subtract** the exponents
* Keep the base
 |  $\frac{a^{m}}{a^{n}}=a^{m-n}$ |  |
| #4When the **exponent** is negative..* **Flip** the base to the bottom part of the fraction.
* Keep the base
 | $$ a^{-m}=\frac{1}{a^{m}}$$ |  |
| #5Any number **to the zero power**…* Equals 1

73 7 × 7 × 7 = 1 = 7073 7 × 7 × 7  | $$a^{0}=1$$ |  |

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