

Ch: 8-1 & 8-2

Summary - The 6 Exponent Rules

TIPS

ADD
EXPONENTS

- ① Multiplication Rule for Exponents

$$a^m \cdot a^n = a^{m+n}$$

SUBTRACT
EXPONENTS

- ② Division Rule for Exponents

$$\frac{a^m}{a^n} = a^{m-n}$$

MULTIPLY
EXPONENTS

- ③ Power of a Power Rule

$$(a^m)^n = a^{m \cdot n}$$

CASE THE
EXPONENT
WITH
EACH TERM

- ④ Power of a Product or Quotient Rule

$$(ab)^m = a^m b^m$$

$$\left(\frac{a}{b}\right)^m = \frac{a^m}{b^m}$$

- ⑤ Zero Power Rule

$$a^0 = 1$$

EXCEPT

$$0^0 = 0$$

- ⑥ Negative Power Rule

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