

$$1. \quad a^n \cdot a^m = a^{n+m}$$

$$2. \quad \frac{a^n}{a^m} = a^{n-m} \quad a \neq 0$$

$$3. \quad (a^n)^m = a^{nm}$$

$$4. \quad (ab)^n = a^n b^n$$

$$5. \quad \left(\frac{a}{b}\right)^n = \frac{a^n}{b^n} \quad b \neq 0$$

$$6. \quad a^0 = 1 \text{ if } a \neq 0 \text{ and } 0^0 \text{ is undefined}$$

$$7. \quad a^{-n} = \frac{1}{a^n} \quad a \neq 0$$