

gleiche Basis

$$x^a \cdot x^b = x^{a+b}$$

$$2^5 \cdot 2^3 = 2^{5+3} = 2^8$$

$$x^a : x^b = x^{a-b}$$

$$2^5 : 2^3 = 2^{5-3} = 2^2$$

gleicher Exponent

$$a^n \cdot b^n = (a \cdot b)^n$$

$$2^3 \cdot 4^3 = (2 \cdot 4)^3 = 8^3$$

$$a^n : b^n = (a : b)^n$$

$$6^3 : 2^3 = (6 : 2)^3 = 3^3$$

weitere Potenzgesetze

$$(x^a)^b = x^{a \cdot b}$$

$$(2^5)^3 = 2^{5 \cdot 3} = 2^{15}$$

$$x^0 = 1$$

$$5^0 = 1$$

$$a^1 = a$$

$$7^1 = 7$$

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

$$2^{-3} = \frac{1}{2^3} = \frac{1}{8}$$

$$x^{\frac{m}{n}} = \sqrt[n]{x^m}$$

$$2^{\frac{3}{5}} = \sqrt[5]{2^3}$$