$$2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 \cdot 2 = 2^{13}$$

$$a^m = \underbrace{a \cdot \_\_\_ \cdot a}_{m \text{ fois}} \qquad a \in \mathbb{R} \text{ réel}$$

$m \in \mathbb{N}$ entier

$$\sqrt{2}^{4} \qquad \pi^{3} \qquad 1{,}72^{1000}$$

$$2^{\frac{p}{q}}$$

$$3^{\frac{3}{2}} = 3^{1,5}$$

$$\left(3^{\frac{1}{2}}\right)^3 = 3^{\frac{1}{2}\cdot 3} = 3^{\frac{1}{2}\cdot\frac{3}{1}} = 3^{\frac{3}{2}}$$

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

3^1 $\quad$ 3

$3^{\frac{1}{2}}$ $\quad$ $\sqrt{3}$

3^0 $\quad$ 1

$$3^1 = 3^{\frac{1}{2}+\frac{1}{2}}$$

$$= 3^{\frac{1}{2}} \cdot 3^{\frac{1}{2}}$$

$$= \left(3^{\frac{1}{2}}\right)^2 = 3$$

1.1.1 à 1.1.6

① tous les 2

② tous les 6

→ Jeudi

③ tous les 5

1.1.7 / 1.1.10 / 1.1.11

$$4^{-2} = \frac{1}{4^2}$$

$$2^{-n} = \frac{1}{2^n}$$

4^2 $4 \cdot 4$

4^1 4

4^0 1

4^{-1} $\frac{1}{4}$

$$4^{-2} = \frac{1}{4^2} \qquad 4^{-3} = \frac{1}{4^3}$$

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

$$5^0 \cdot 5^1 \cdot 5^2 \cdot 5^3 \cdot 5^4 \cdot 5^5 \cdot 5^6 \cdot 5^7 \cdot 5^8 \cdot 5^9 \cdot 5^{10}$$

$$\left(\frac{2}{6}\right)^{-1} = \frac{1}{\left(\frac{2}{6}\right)^{1}} = \frac{6}{2}$$

$$2^{-n} = \frac{1}{2^{n}}$$

$$\left(\frac{1}{4}\right)^{-1} = \frac{4}{1} = 4$$

$$\left(-\frac{1}{2}\right)^{-2} = \frac{1}{\left(-\frac{1}{2}\right)^{2}} = 4$$

$$2^{-n} = \frac{1}{2^{n}}$$

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

$$\frac{\cancel{a}\cdot\cancel{a}\cdot a\cdot a \cdots}{\cancel{a}\cdot\cancel{a}}$$

$$4 = 2^2 \qquad \left(\left(-(2^2)\right)^2\right)^4 \qquad (-x)^2 = x^2$$

$$\left((-4)^2\right)^4 = \left((2^2)^2\right)^4 = 2^{16}$$

$$\frac{7^7}{7^7} = 7^{7-7} = 7^0 = 1$$

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

$$\left(\frac{2}{3}\right)^3 = \frac{2}{3} \cdot \frac{2}{3} \cdot \frac{2}{3}$$

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

$$(3^2)^3 = 3^2 \, 3^2 \cdot 3^2$$

$$= 3^6 = 3^{2 \cdot 3}$$

$$(2^n)^m = 2^{n \cdot m}$$

$$\left((-4)^2\right)^4 = (-4)^8 = 4^8 = (2^2)^8 = 2^{16}$$

$$(-2)^k = 2^k \quad \text{si } k \text{ es PAR}$$