$$ax^2 + bx + c = 0$$

a, b, c des nombres

$a \neq 0$

$$a\left(x^2 + \frac{b}{a}x + \frac{c}{a}\right) = 0$$

$$a\left(x^2 + 2 \cdot x \cdot \frac{b}{2a} + \frac{c}{a}\right) = 0$$

$$a\left(x^2 + 2x \cdot \frac{b}{2a} + \frac{b^2}{4a^2} - \frac{b^2}{4a^2} + \frac{c}{a}\right) = 0$$

$$a\left(\left(x + \frac{b}{2a}\right)^2 - \left(\frac{b^2}{4a^2} - \frac{c}{a}\right)\right) = 0$$

$$a\left(x + \frac{b}{2a} + \sqrt{\frac{b^2}{4a^2} - \frac{c}{a}}\right)\left(x + \frac{b}{2a} - \sqrt{\frac{b^2}{4a^2} - \frac{c}{a}}\right) = 0$$

$$\Leftrightarrow \quad x = -\frac{b}{2a} \pm \sqrt{\frac{b^2 - 4ac}{4a^2}}$$

$$\Leftrightarrow \quad x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$27x^3 + \frac{1}{64}$$

$$64 = 4 \cdot 4 \cdot 4$$

$$(3x)^3 + \left(\frac{1}{4}\right)^3 =$$

$$A^3 + B^3 = (A+B)(A^2 - AB + B^2)$$

$$\boxed{\begin{aligned} &A^3 - \cancel{A^2B} + \cancel{AB^2} \\ &+ \cancel{A^2B} - \cancel{AB^2} + B^3 \end{aligned}}$$

$$\overset{x^8}{y^2} - 257\overset{x^4}{y} + 256 =$$

$$(y-1)(y-256) =$$

$$(x^4-1)(x^4-256) = (x^2+1)(x+1)(x-1)(x^2+16)(x+4)(x-4)$$

$\mathbb{R}$ $\mathbb{R}$

$$A - B = -(B - A)$$

$$x(2-4) + y(4-2) =$$

$$x(2-4) - y(2-4) = (x-y)(2-4)$$

$$
\begin{aligned}
x^4 + x^2 + 1 &= x^4 + 2x^2 + 1 - x^2 \\
&= (x^2+1)^2 - x^2 \\
&= (x^2+1+x)(x^2+1-x) \\
&= (x^2+x+1)(x^2-x+1)
\end{aligned}
$$

$$z^3 \underbrace{-6z^2}_{} + \underbrace{12z}_{} - 8$$

$$z - 3z^2 \cdot 2 + 3z4 \qquad 2^3 \qquad = \boxed{(z-2)^3}$$