

$$\text{Calcul algébrique} \left\{ \begin{array}{l} (a+b+c)^2 = a^2 + b^2 + c^2 + 2ab + 2bc + 2ca \\ (a-b+c)^2 = a^2 + b^2 + c^2 - 2ab - 2bc + 2ca \end{array} \right.$$

$$(\sqrt{6}-\sqrt{5}+1)^2 - (\sqrt{6}+\sqrt{5}-1)^2 = \left[ (\sqrt{6}-\sqrt{5}+1) - (\sqrt{6}+\sqrt{5}-1) \right] \cdot \left[ (\sqrt{6}-\sqrt{5}+1) + (\sqrt{6}+\sqrt{5}-1) \right] =$$

$$= (\sqrt{6}-\sqrt{5}+1 - \sqrt{6}-\sqrt{5}+1) \cdot (\sqrt{6}-\sqrt{5}+1 + \sqrt{6}+\sqrt{5}-1) =$$

$$= (-2\sqrt{5}+2) \cdot 2\sqrt{6} = 2 \cdot (1-\sqrt{5}) \cdot 2\sqrt{6} = 4\sqrt{6}(1-\sqrt{5})$$

$$(x^2 - x - 2)^2 - x \cdot (x+1)^2 =$$

$$= [(x-2)(x+1)]^2 - x \cdot (x+1)^2 =$$

$$= (x-2)^2 - (x+1)^2 - x \cdot (x+1)^2 =$$

$$= (x+1)^2 \cdot [(x-2)^2 - x] =$$

$$= (x+1)^2 \cdot (x^2 - 4x - 4 - x) = (x+1)^2 \cdot (x^2 - 5x - 4) =$$

$$= (x+1)^2 \cdot (x^2 - x - 4x - 4) =$$

$$= (x+1)^2 \cdot [x \cdot (x-1) - 4(x-1)] =$$

$$\left. \begin{array}{l} x^2 - x - 2 = \\ = x^2 - 2x + x - 2 = \\ = x \cdot (x-2) + 1 \cdot (x-2) = \\ = (x-2)(x+1) \end{array} \right\}$$

$$\left. \begin{array}{l} (a+b)(a-b) = a^2 - b^2 \end{array} \right\}$$

L'IDM DFS COMPOSÉ  
EN FACTORES.

$$(x-1)(x+1)(x^2+1)(x^4+1) = (x^2-1) \cdot (x^2+1)(x^4+1) =$$

$$= [(x^2)^2 - 1^2] \cdot (x^4+1) = (x^4-1)(x^4+1) = (x^8)^2 - 1^2 =$$

$$\left. \begin{array}{l} = x^8 - 1 \end{array} \right\}$$

