

$g := x \rightarrow \frac{x+1}{-x+1} : h := x \rightarrow \frac{1}{x} : \# Nos\ homographies\ #$
 $P := simplify(expand((X-x) \cdot (X-g(x)) \cdot (X-g(g(x))) \cdot (X-g(g(g(x)))) \cdot (X-h(x)) \cdot (X-h(g(x))) \cdot (X-h(g(g(x)))) \cdot (X-h(g(g(g(x))))))) :$
 $\# Le\ polynôme\ minimal\ de\ x\ #$
 $seq(simplify(coeff(P, X, k)), k=0..8); \# Ses\ coefficients\ #$
 $1, 0, -\frac{x^8 + 14x^4 + 1}{x^2(x^2 - 2x + 1)(x + 1)^2}, 0, \frac{2(x^8 + 7x^6 + 7x^2 + 1)}{x^2(x^2 - 2x + 1)(x + 1)^2}, 0,$ (1)
 $-\frac{x^8 + 14x^4 + 1}{x^2(x^2 - 2x + 1)(x + 1)^2}, 0, 1$

$t := \frac{x^8 + 14x^4 + 1}{x^2(x^2 - 2x + 1)(x + 1)^2} : simplify(14 + 2t); t := 't': \# Travail\ sur\ le\ coefficient\ de\ X^4\ #$
 $\frac{2(x^8 + 7x^6 + 7x^2 + 1)}{x^2(x^2 - 2x + 1)(x + 1)^2}$ (2)

$galois(x^8 - t \cdot x^6 + (14 + 2 \cdot t)x^4 - t \cdot x^2 + 1, x); \# La\ récompense\ #$
 $"8T4", \{"D_8(8)", "[4]2"\}, "+", 8, \{"(1\ 2\ 3\ 8)(4\ 5\ 6\ 7)", "(7\ 8)(1\ 6)(2\ 5)(3\ 4)"\}$ (3)