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R<r1>:=PolynomialRing(Rationals());
K<r1>:=NumberField(r1^2 + 1496/675*r1 + 10976/625);
A<x,y>:=AffineSpace(K,2);
P2<x,y,z>:=ProjectiveClosure(A);
P:=[A![0,0],A![1,0],A![0,1],A![1,1]];
T:=[[1],[1,0],[1,15/61*r1 + 443/2745],[1,35/366*r1 - 10802/24705]],[[0,1]],[[1,-405/1708*r1 - 1171/2135],[1,-
21465/95648*r1 - 23559/59780]]];
M:=[[2],[1,3,0,0],[1,2],[1,0,1]];
J4:=LinSys(LinearSystem(A,4),P,M,T);
M:=[[2],[2,2,2,2],[2,4],[0,2,0]];
J6:=LinSys(LinearSystem(A,6),P,M,T);
M:=[[3],[2,4,0,2],[2,4],[1,1,1]];
J7:=LinSys(LinearSystem(A,7),P,M,T);
s4:=[DefiningEquation(ProjectiveClosure(Scheme(A,Sections(J4)[i]))) : i in [1..#Sections(J4)]];
s6:=[DefiningEquation(ProjectiveClosure(Scheme(A,Sections(J6)[i]))) : i in [1..#Sections(J6)]];
s7:=[DefiningEquation(ProjectiveClosure(Scheme(A,Sections(J7)[i]))) : i in [1..#Sections(J7)]];
s4;s6;s7;

WP<w,x,y,z>:=ProjectiveSpace(K,[3,1,1,1]);
f4:=x^3*y + x^2*y^2 + 1/8540*(-2025*r1 + 196)*x*y^3 - 2*x^2*y*z + 1/8540*(2025*r1 - 8736)*x*y^2*z + x*y*z^2;
f6:=x^6 + 1/1220*(-300*r1 + 447)*x^5*y + 1/1830*(-1775*r1 - 6429)*x^4*y^2 + 1/3660*(-1550*r1 - 14313)*x^3*y^3 +
1/610*(225*r1 - 1479)*x^2*y^4 - 1/4*x*y^5 - 4*x^5*z + 1/61*(75*r1 - 5)*x^4*y*z + 1/305*(650*r1 + 2844)*x^3*y^2*z
+
8*x^2*y^3*z + x*y^4*z + 6*x^4*z^2 + 1/610*(-1050*r1 - 723)*x^3*y*z^2 + 1/610*(-675*r1 - 4713)*x^2*y^2*z^2 -
3/2*x*y^3*z^2 - 4*x^3*z^3 + 1/305*(225*r1 + 351)*x^2*y*z^3 + x*y^2*z^3 + x^2*z^4 - 1/4*x*y*z^4;
s7:=[x^6*y + 1/21236845*(8199150*r1 + 17461444)*x^3*y^4 + 1/4247369*(219900*r1 + 1205645)*x^2*y^5 +
1/21236845*(2871300*r1 + 7433153)*x*y^6 - 4*x^5*y*z + 1/3033835*(220800*r1 - 6664147)*x^4*y^2*z +
1/21236845*(-9524850*r1 -
50306781)*x^3*y^3*z + 1/4247369*(-1279200*r1 - 6219619)*x^2*y^4*z + 1/21236845*(-11485200*r1 -
29732612)*x*y^5*z + 6*x^4*y*z^2 + 1/21236845*(-219900*r1 + 100731211)*x^3*y^2*z^2 + 1/4247369*(1898700*r1 +
13069672)*x^2*y^3*z^2 +
1/21236845*(17227800*r1 + 44598918)*x*y^4*z^2 - 4*x^3*y*z^3 + 1/4247369*(-839400*r1 -
12303067)*x^2*y^2*z^3 + 1/21236845*(-11485200*r1 - 29732612)*x*y^3*z^3 + x^2*y*z^4 + 1/21236845*(2871300*r1
+ 7433153)*x*y^2*z^4,
x^5*y^2 + 1/21236845*(-3608550*r1 - 16762753)*x^3*y^4 + 1/4247369*(692550*r1 + 943250)*x^2*y^5 +
1/21236845*(-446850*r1 - 4475121)*x*y^6 + 1/3033835*(17550*r1 - 4196262)*x^4*y^2*z + 1/4247369*(835650*r1 +
6867546)*x^3*y^3*z +
1/21236845*(-5908950*r1 + 12617598)*x^2*y^4*z + 1/21236845*(1787400*r1 + 17900484)*x*y^5*z +
1/21236845*(-692550*r1 - 9437988)*x^3*y^2*z^2 + 1/21236845*(1429650*r1 - 39383946)*x^2*y^3*z^2 +
1/21236845*(-2681100*r1 -
26850726)*x*y^4*z^2 + 1/21236845*(1016550*r1 + 22050098)*x^2*y^2*z^3 + 1/21236845*(1787400*r1 +
17900484)*x*y^3*z^3 + 1/21236845*(-446850*r1 - 4475121)*x*y^2*z^4,
x^4*y^3 + 1/606767*(-17550*r1 + 555660)*x^3*y^4 + 1/606767*(-118800*r1 + 27440)*x^2*y^5 +
1/3033835*(24300*r1 + 490833)*x*y^6 + 1/86681*(-1350*r1 - 70609)*x^4*y^2*z + 1/3033835*(16200*r1 -
8774283)*x^3*y^3*z + 1/3033835*(1092150*r1 -
3727381)*x^2*y^4*z + 1/3033835*(-97200*r1 - 1963332)*x*y^5*z + 1/3033835*(118800*r1 +
5433463)*x^3*y^2*z^2 + 1/3033835*(-402300*r1 + 7043162)*x^2*y^3*z^2 + 1/3033835*(145800*r1 +
2944998)*x*y^4*z^2 + 1/3033835*(-95850*r1 -
3452981)*x^2*y^2*z^3 + 1/3033835*(-97200*r1 - 1963332)*x*y^3*z^3 + 1/3033835*(24300*r1 +
490833)*x*y^2*z^4];

W3:=Scheme(WP,w^2-f6);
P3:=ProjectiveSpace(K,3);
s7:=[s7[i] div (x*y) : i in [1..#s7]];
psi2:=map<W3->P3|s7 cat [w*(f4 div (x*y))]>;
S:=Scheme(W3,[s7[1],s7[2]]);
Degree(psi2(S));

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