```
> Q := RationalField();
> F<b,c> := FunctionField(Q,2);
> E := EllipticCurve([F | 1-c, -b, -b, 0, 0]);
> EP := E![0,0];
> P<x,y> := PolynomialRing(Q,2);
> j := jInvariant(E);
> Nj := Numerator(F!j);
> Dj := Denominator(F!j);
> PJSeq := [P!Nj-54000*P!Dj];
> PJSeq2 := [P!Nj-0*P!Dj];
> x1:=(8*EP)[1];
> x2:=(10*EP)[1];
> f18:=P!(Numerator(x1)*Denominator(x2)-
Numerator(x2)*Denominator(x1));
> Factorization(f18);
[
    <x, 1>,
    <x - y^2 - y, 1>,
    <x^3 - 3*x^2*y + x*y^3 + 3*x*y^2 - y^5 - y^4 - y^3, 1>,
    <x^9 - 9*x^8*y^2 - 6*x^8*y + 6*x^7*y^4 + 44*x^7*y^3 + 15*x^7*y^2 -
x^6*y^6 + x^6*y^5 - 86*x^6*y^4 - 20*x^6*y^3 - 18*x^5*y^7 - 67*x^5*y^6
+ 84*x^5*y^5 +
        15*x^5*y^4 + 7*x^4*y^9 + 50*x^4*y^8 + 143*x^4*y^7 - 41*x^4*y^6
- 6*x^4*y^5 - x^3*y^11 - 8*x^3*y^10 - 37*x^3*y^9 - 128*x^3*y^8 +
8*x^3*y^7 + x^3*y^6 +
        55*x^2*y^9 + 7*x*y^11 - 11*x*y^10 + y^13 - y^12 + y^11, 1>
]
> F18:=x^9 - 9*x^8*y^2 - 6*x^8*y + 6*x^7*y^4 + 44*x^7*y^3 + 15*x^7*y^2
- x^6*y^6 + x^6*y^5 - 86*x^6*y^4 - 20*x^6*y^3 - 18*x^5*y^7 -
67*x^5*y^6 + 84*x^5*y^5 + 15*x\
^5*y^4 + 7*x^4*y^9 + 50*x^4*y^8 + 143*x^4*y^7 - 41*x^4*y^6 - 6*x^4*y^5
- x^3*y^11 - 8*x^3*y^10 - 37*x^3*y^9 - 128*x^3*y^8 + 8*x^3*y^7 +
x^3*y^6 + 55*x^2*y^9 + 7*x\
*y^11 - 11*x*y^10 + y^13 - y^12 + y^11;
> A<b,c> := PolynomialRing(Rationals(),2);
> I:=ideal<A|PJSeq,F18>;
> PrimaryDecomposition(I);

/* I have omitted the output to conserve space. */

> I2:=ideal<A|PJSeq2,F18>;
> PrimaryDecomposition(I2);

/* I have omitted the output to conserve space. */
```