$F = z^3 - x^{30}$

$w = dx\,dy\,dz$

$\underline{\nu} = (1,1,1)$

$\frac{1}{3}(1,1,0)$

$\frac{1}{6}(1,-1,0)$

$P_1 = (0,0,3)$

$P_0 = (30,0,0)$

$\gamma = \langle P_0, P_1 \rangle$

$N = \mathbb{Z}\langle f_1, f_2, f_3 \rangle \qquad \sigma = \mathbb{R}_{\geq 0}\langle e_1, e_2, e_3 \rangle$

$N_1 = \mathbb{Z}\langle e_1, e_2, e_3 \rangle \qquad N^{\mathbb{R}} = N_1^{\mathbb{R}}$

$e_1 = f_1$

$e_2 = f_1 + 3f_2$ (6)

$e_3 = f_3$

$M_1 = N_1^* \;,\; M = N^* \qquad M = \{ x e_1^* + y e_2^* + z e_3^* \;/\; x \equiv y \;(3) \}$ (6)

$P_0 \in M \;,\; P_1 \in M$

$P_0 \longrightarrow \mathrm{Cone}\begin{pmatrix} v_1 & v_2 & v_3 \\ 1 & 0 & 0 \\ 0 & 1 & 0 \\ 10 & 0 & 1 \end{pmatrix}$

$\mathbb{C}^3$ vol = 1 mult = 1 denom 1

$\langle P_0 \cdot s + \underline{\nu}, v_1 \rangle \quad \langle P_0, s + \underline{\nu}, v_2 \rangle \quad \langle P_0 s + \underline{\nu}, v_3 \rangle$

$30s + 11 \qquad 1 \qquad 1$

Cociente vol = 1 mult = 3!

$(e_1\ e_2\ e_3) = (f_1\ f_2\ f_3)\begin{pmatrix} 1 & 1 & 0 \\ 0 & 3 & 0 \\ 0 & 0 & 1 \end{pmatrix}$ (6)

$(e_1^*\ e_2^*\ e_3^*) = (f_1^*\ f_2^*\ f_3^*)\begin{pmatrix} 1 & 0 & 0 \\ -\frac{1}{3} & \frac{1}{3} & 0 \\ 0 & 0 & 1 \end{pmatrix}$ (6)

$(f_1^*\ f_2^*\ f_3^*) = (e_1^*\ e_2^*\ e_3^*)\begin{pmatrix} 1 & 0 & 0 \\ 1 & 3 & 0 \\ 0 & 0 & 1 \end{pmatrix}$ (6)

mult $\begin{pmatrix} 1 & 1 & 0 \\ 0 & 3 & 0 \\ 10 & 0 & 1 \end{pmatrix}$

$v_1 = e_1 + 10e_3 = f_1 + 10f_3$

$v_2 = e_2 = f_1 + 3f_2$ (6)

$v_3 = e_3 = f_3$

denominador no cambia

$\tilde{X}_{P_0} = 3\, X_{P_0}$ (6)

Guardo v_1 y mult

Anisk. vol

$\mathbb{C}^3 \to$ vol = 3

mult. $\to \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 10 & 0 & 1 \end{pmatrix} \to (1)$

Cociente $\to$ vol = 1

mult. $v_1 =$

denom.

$(30,0,0), (20,0,2), (10,0,1), (0,0,3)$

M

$\begin{pmatrix} 1 & 1 \\ 0 & 3 \\ 10 & 0 \end{pmatrix}$ (6) $\to$ 3, 10, 30 $\to$ 6, 60, 10

$\tilde{X}_\gamma = \frac{2}{3}\frac{1}{3} X_\gamma \qquad \frac{2}{3} = \frac{6}{9}$