EXAMPLE 3: $y^2 = x^{11} - t^3 = f(x)$

$$\Delta_{min} = 2\binom{11}{2}\frac{3}{11} = 30$$

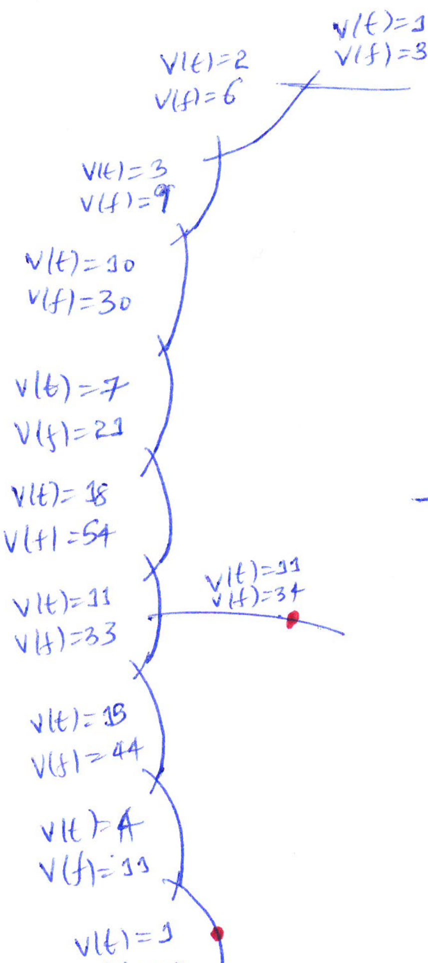
$$\operatorname{div}(f) = H - 11(\infty)$$

- H is not regular.
- Continued fraction expansion of $\frac{3}{11} = [3, 1, 2]$

$$11 = 3 \cdot 3 + 2 \qquad x^{11} - t^3 = x^9\left(x^2 - \left(\frac{t}{x^3}\right)^3\right)$$

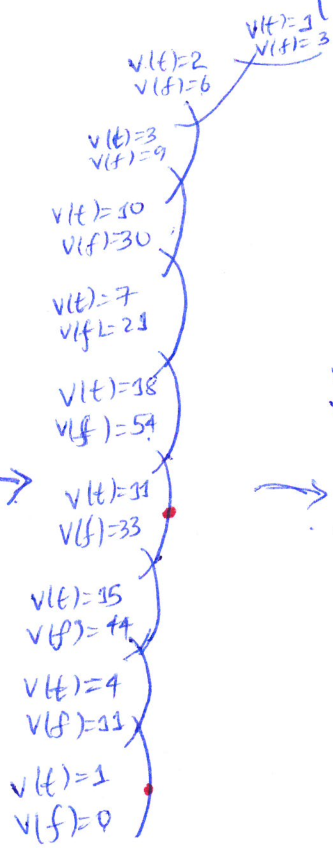
$$3 = 1 \cdot 2 + 1 \qquad = x^9\left(\frac{t}{x^3}\right)^2\left(\left(\frac{x^4}{t}\right)^2 - \frac{t}{x^3}\right)$$

$$2 = 2 \cdot 1 \qquad = x^9\left(\frac{t}{x^3}\right)^2\left(\frac{x^4}{t}\right)\left(\frac{x^4}{t} - \frac{t^2}{x^7}\right)$$

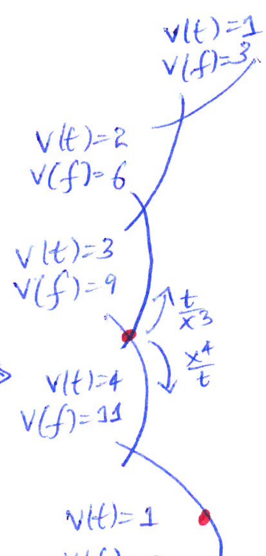


End of Steps 4 & 5

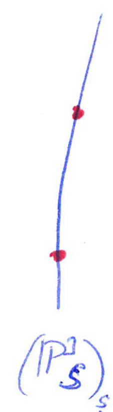
$y_s = y'_s$



End of Step 3



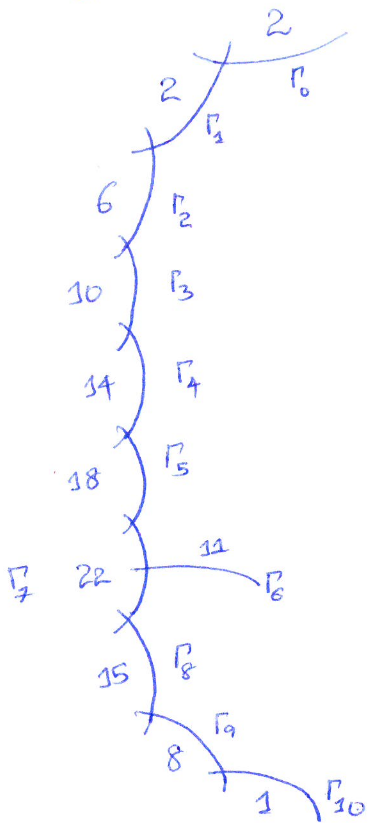
End of Steps 1 & 2



Sequence of multiplicities of the singular point on the strict transform of H =

$$\{\underbrace{3, 3, 3}_{3}, \underbrace{2}_{1}, \underbrace{1, 1}_{2}\}$$

$\mathcal{X}_S = \mathcal{X}'_S$



$$\sum_{i<j} \Gamma_i \cdot \Gamma_j = 10$$

$$a_i = (1-m_{\Gamma_i})\,\chi(\Gamma_i) + \sum_{j\neq i} (m_{\Gamma_j}-1)\,\Gamma_i \cdot \Gamma_j$$

$$a_0 = -2+1 = -1$$

$$a_1 = -2+1+5 = 4$$

$$a_2 = a_3 = a_4 = a_5 = a_8 = a_9 = 0$$

$$a_6 = -20+21 = 1$$

$$a_7 = -42+17+10+14 = -1$$

$$a_{10} = 7$$

$$\sum a_i = 10$$

$$\boxed{-\mathrm{Art}(\mathcal{X}'/S) = 20 < \Delta_{min} = 30.}$$