

> *# Set the parameters and functions*

$t := 't':$

$s := 's':$

$u := 'u':$

$$\begin{aligned} V3 := & (2706867 t^{16} + 5413734 t^{14} - 5413734 s^{12} - 16241202 s^{10} \\ & + 16241202 t^6 + 5413734 t^4 - 5413734 s^2 - 2706867) \cdot u^6 \\ & + (27068670 t^{14} + 27068670 t^{12} - 81206010 s^{10} - 81206010 s^8 \\ & + 81206010 t^6 + 81206010 t^4 - 27068670 s^2 - 27068670) \cdot u^5 \\ & + (81340680 t^{12} - 53868000 s^{10} - 297890040 s^8 + 107736000 t^6 \\ & + 351758040 t^4 - 53868000 s^2 - 135208680) \cdot u^4 + (1077360 t^{10} \\ & - 432021360 s^8 - 2154720 s^6 + 864042720 t^4 + 1077360 t^2 \\ & - 432021360) \cdot u^3 + (-687146640 s^8 - 947658720 s^6 \\ & + 1292832000 t^4 + 947658720 t^2 - 605685360) \cdot u^2 + (\\ & -1547108256 s^6 - 169811232 s^4 + 1893587232 t^2 - 176667744) \cdot u \\ & - 689504000 \cdot s^4 + 1373888000 t^2 + 339616000 : \end{aligned}$$

print Output ;

find Sturm's sequence

for j from 0 by 1 to 7 do

$t := \frac{j}{8} :$

$s := \frac{j+1}{8} :$

$u := 'u':$

$S := \text{sturmseq}(V3, u);$

$\text{signnum} := \text{sturm}\left(S, u, 0, \left(\frac{71}{100}\right)^2\right);$

with(ArrayTools) :

$\text{Slength} := \text{Size}(S, 2);$

$X := \text{Array}(1 .. \text{Slength});$

$Y := \text{Array}(1 .. \text{Slength});$

