characteristic polynomial {{1,−1,1,0,1},{0,−2,1,2,3},{5,0,1,0,−1},{5,4,3,2,1},{1,0,1,0,0}}

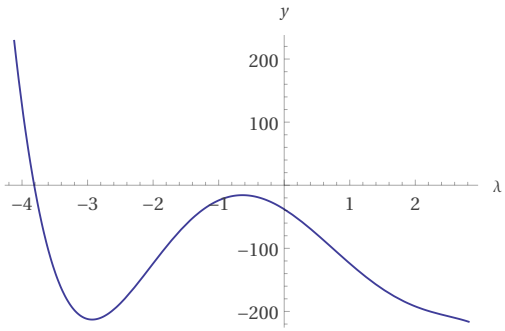
Input:

characteristic polynomial	$\begin{pmatrix} 1 & -1 & 1 & 0 & 1 \\ 0 & -2 & 1 & 2 & 3 \\ 5 & 0 & 1 & 0 & -1 \\ 5 & 4 & 3 & 2 & 1 \\ 1 & 0 & 1 & 0 & 0 \end{pmatrix}$	variable	λ

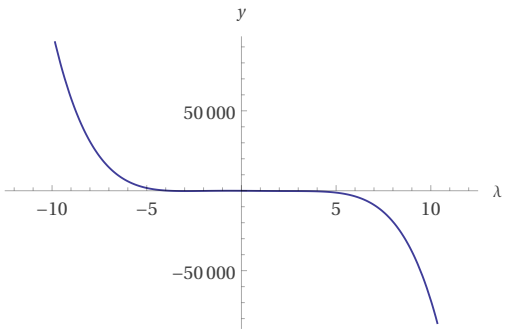
Result:

$$-\lambda^5 + 2\lambda^4 + 16\lambda^3 - 38\lambda^2 - 65\lambda - 38$$

Plots:



(λ from −4.1 to 2.8)



(λ from −12 to 12)

Alternate forms:

$$-\lambda(\lambda(\lambda((\lambda-2)\lambda-16)+38)+65)-38$$

$$\lambda(\lambda(\lambda((2-\lambda)\lambda+16)-38)-65)-38$$