

NAME :

1. The cissoid of Diocles is defined by $x^3 - (2a - x)y^2$, for some parameter a .
 - (a) Give the Sage command(s) to plot this curve for $a = 1$, for x and y both in $[-2, +2]$.
 - (b) Make an animation with 10 frames, incrementing a with one each time, starting at $a = 1$ and ending at $a = 10$.
2. Consider the system
$$\begin{cases} x^2 + y^2 - 4 = 0 \\ xy + 3x - 6 = 0. \end{cases}$$
 - (a) Give the Sage command(s) to compute the resultant of this system, eliminating y .
 - (b) Write the resultant. Give the Sage command(s) to compute all its roots.