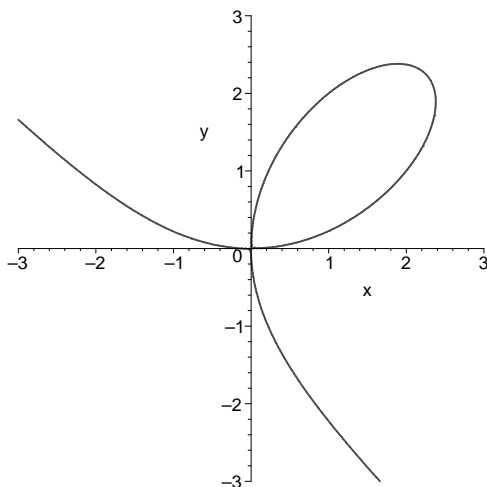


7. (12 points) The figure shows the graph of the curve $2x^3 + 2y^3 - 9xy = 0$, called a *folium of Descartes* because it was studied by Descartes in about 1638.



(a) Using the equation above, show that the point $(2, 1)$ lies on the curve.

(b) Compute the derivative $\frac{dy}{dx}$ of the function of x defined implicitly by the equation.

(c) What is the slope of the tangent line to the curve at the point $(2, 1)$?

(d) Write the equation of the tangent line to the curve at the point $(2, 1)$. Draw the graph of this line on the figure.