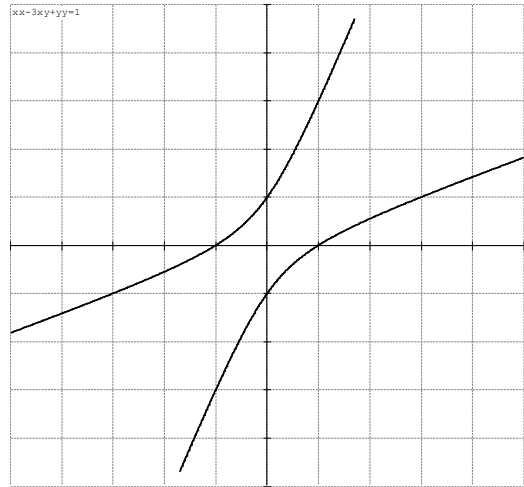AP Calculus
3.8 Lab

Name : _____

3.8 Implicit Differentiation and Tangents

1. Show that there are no points on the graph of $x^2 - 3xy + y^2 = 1$ where the tangent line is horizontal.
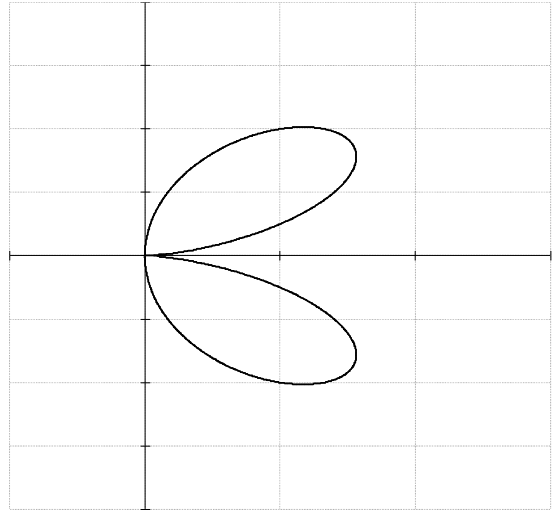
a) Describe your plan to solve this problem.

xx-3xy+yy=1

b) Solution to the problem.

2. Find the equation of the tangent lines where *x=1* on the folium.

$$(x^2 + y^2)^2 = \frac{25}{4}xy^2$$

a) How many tangent lines will exist when *x=1*

b) Algebraically find the points where x=1

c) Find $\frac{dy}{dx}$

d) Use $\dfrac{dy}{dx}$ to find the slopes of the tangent lines when x=1.

e) Find the equation of the tangent lines when x=1.