

Computer Lab #1

1. Find the points where the curves $y = x^3 - 3x + 4$ and $y = 3(x^2 - x)$ are tangent to each other, that is, have a common tangent line. Illustrate by graphing both curves and the common tangent line.
2. Use Maple to perform the following steps:
 - a. Plot the equation with the implicit plotter. Check to see that the given point P satisfies the equation.
 - b. Using implicit differentiation, find the derivative and evaluate it at point P.
 - c. Use the slope found in part (b) to find an equation for the tangent line to the curve at point P. Then plot the implicit curve and the tangent line together on a single graph.

1. $y^3 + \cos(xy) = x^2$ $P(1,0)$

2. $x\sqrt{1+2y} + y = x^2$ $P(1,0)$

Lab is due Tuesday, April 20.

Lab must have a cover sheet, the graphs, and attached work, if any. The work must be legible and organized.