1. Find the derivative of each of the following functions. You do not need to simplify your answers.

1A. $p(x) = \dfrac{x^6 + \cos(x)}{\sin(x) + x^5}$

1B. $m(x) = \sin(e^{2x})$

1C. $k(x) = \ln\left(x^2 + \sqrt[3]{x^2 + \cos(7x)}\right)$

1D. $q(x) = x^4(x^5 + \log_2 x)$

THIS QUIZ CONTINUES ON THE OTHER SIDE!

2. The equation $x^3 + y^4 = x^2y^2 + 1$ implicitly defines y as a function of x, and a graph of this equation is shown at the bottom of the page.

2A. Use implicit differentiation to find y'.

2B. The graph implies that $(1, 1)$ is a solution of the equation; show that $(1, 1)$ does indeed satisfy the equation.

2C. Use the answer to 2A to find the slope of the graph of the equation at $(1, 1)$.