

1. [12 points] The following questions relate to the implicit curve $2x^2 + 4x - x^2y^2 + 3y^4 = -1$.

a. [6 points] Calculate $\frac{dy}{dx}$.

b. [2 points] Q is the only point on the curve that has a y -coordinate of 1. Find the x -coordinate of Q .

c. [4 points] Find the equation of the tangent line to the curve at Q .