

1. (8 points) Find an equation of the tangent line to the curve $x^2 + y^2 - 2xy = 1$ at the point $(2, 3)$.

2. (12 points) Find the derivative of each of the following:

- a. $f(x) = \cos(x^3 + 9)$

- b. $f(x) = \ln\left(\frac{x^2+4}{x^2+9}\right)$

- c. $f(x) = \tan\sqrt{x^2 + 2x + 1}$