Differential Equations
Test 1 sample

Answer FOUR questions and show all work.

1. Solve the DE: \((x^2 + 1)(y^2 - 1)dx + xdy = 0.\)
2. Solve the IVP: \(\frac{dy}{dx} - \frac{2x}{x^2 + 1}y = 2x(x^2 + 1) ; y(0) = 1.\)
3. Solve the DE: \((y - x)dx + (x + y)dy = 0.\)
4. Solve the DE: \((4x^3 + y^3)dx + 3xy^2dy = 0.\)
5. Solve the DE: \(\frac{dy}{dx} + y = y^2e^x.\)