

Math 131 - Quiz 8

October 22, 2025

Name _____

Score _____

Show all work to receive credit. Supply explanations where necessary.

1. (6 points) Assume that y is implicitly defined as a function of x by the equation $x^4y + y^3 = -2x$. Use implicit differentiation to find a formula for dy/dx .

2. (2 points) Explain why $f(x) = x^2 - 1$ does not have an inverse.

3. (2 points) Let $g(x) = x^3 + 5x + 8$. Find $g^{-1}(2)$.