

Quiz # 3

Name: _____

Date: 9/10/2024

Math 128A - 105: Fall 2024

For full credit, please clearly show all your work.

Problem 1

Consider the function $f(x) = |x|$.

1. Find a polynomial that interpolates the function at the points $x = -2, 0, 1$ using Lagrange interpolation.
2. What can you say about the error of the approximation using the error formula?

Problem 2

Find a polynomial $p(x)$ using divided differences such that

$$p(-1) = 1, p'(-1) = -6, p(3) = 9, p'(3) = 8$$