Math 131 - Quiz 10

April 22, 2026

Name _____

Score _____

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

1. (5 points) Use calculus techniques (showing all work) to determine the absolute maximum and minimum values of $f(x) = 3x^4 + 4x^3 - 12x^2 + 10$ on $[-3, 2]$.

2. (5 points) Let $f(x) = x^3 - x^2 - 8x + 12$. Use calculus techniques (showing all work) to determine open intervals on which f is increasing/decreasing. Also identify all relative extreme values.