MATH 1525 CALCULUS I Quiz 7 Name:
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Problem 1. The volume of a cube is increasing at the rate of $1200\text{cm}^3/\text{min}$ at the instant the edges are 10cm long. At what rate are the lengths of the edges changing at that instant?

Problem 2. Find all critical points of $f(x) = |x^3 - x|$, and classify them as either a local minimum, a local maximum, a point of discontinuity, or a point of nondifferentiability.

Problem 3 (Extra Credit). Find the value of r such that $x^2 + y^2 = r$ is tangent to the line $y = -2x + 5$.