

Math 131 - Quiz 8 (IC)

March 27, 2023

Name _____

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (3 points) Find the linearization of $f(x) = \sqrt{x}$ at $x = 4$. Then use your linearization to approximate $\sqrt{3.96}$.

2. (2 points) Let $y = e^{-2x}$. Use differentials to approximate Δy as x changes from $x = 0$ to $x = 0.12$.

Math 131 - Quiz 8 (TH)

March 27, 2023

Name _____

Score _____

Show all work to receive full credit. Supply explanations when necessary. This portion of Quiz 8 is due on April 3.

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

2. (1 point) Suppose that x and y are differentiable functions of t and that $y = 4x^2$. Find dx/dt at $x = 2$ if $dy/dt = 3$.