QUIZ 5 - MATH 112 Friday, February 10

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Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Compute the derivative of the function $f(x) = 12\sqrt{x} - \frac{6}{\sqrt[3]{x}}$.

2. Find an equation for the tangent line to the graph of $f(x) = \frac{1}{x} - \frac{1}{x^3}$ at $x = 2$.

3. The number of people newly infected on day t of a flu epidemic is $f(t) = 13t^2 - t^3$, for $0 \leq t \leq 13$. Find the instantaneous rate of change of this quantity on day 5, state its units and interpret your answer.