QUIZ 4 - MATH 112

Friday, February 14

YOUR NAME:_____

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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 $f(x) = (x + 6\sqrt{x})(x^{27} + x^5)$.

2. Compute the derivative of the function $f(x) = \dfrac{3x + 5}{x^2 - x + 1}$.

3. Suppose an object that is moving on a straight line is located at $s(t) = (t^2 + 1)^5$ meters from the origin at time t seconds, $0 \leq t \leq 2$. Find the instantaneous velocity and the instantaneous acceleration of the object at $t = 1$ second into its motion.