QUIZ 5 - MATH 112   Friday, October 9

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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. Calculate the following derivative:

$$\left[(2x^3 - 17x^2 + 7)(5x^9 + 15x^4 - 13x + 1)\right]' =$$

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

3. The temperature of a patient t hours after taking a fever reducing medication is $T(t) = 98 + \dfrac{8}{\sqrt{t}}$ degrees Fahrenheit, where $t \geq 1$. Find $T(4), T'(4)$ and $T''(4)$ and interpret these numbers. (Please, keep interpretations concise (a short sentence) and to the point.)