

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. Use the **limit definition** of the derivative to find the slope of the tangent line to the graph

of $f(x) = \frac{1}{x+1}$ at $x = -2$.

2. Find an equation for the tangent line to the graph of $f(x) = 2\sqrt{x} - \frac{1}{2}x^2$ at $x = 4$ (in this problem, since "limit definition" is not mentioned, you may use your rules for derivatives).