Compute the difference quotient (also known as $NQ$) for $f(x) = 2x^2 + 8x - 1$. Simplify.
2. Make a quick vertex-and-$y$-intercept graph for $f(x) = 2x^2 + 8x - 1$. Label the important points with their coordinates. Find the exact coordinates of the $x$-intercepts as well.