Quiz   **Name**

1. Check that the point $(1, 2)$ is on the graph of the function $f(x) = \sqrt{x^2 + 3x}$ and then determine an equation for the tangent line to the graph at that point.

2. Solve $\ln(x + 4) + \ln(x + 3) = \ln 24 - \ln 2$ for x.

3. Differentiate the function $f(x) = 2e^x - x^2$. What are the critical points (if any) of this function?

4. Find the critical points for the function $f(x) = e^{x^3 - 3x^2}$.