1. (2 points) Compute $w'(t)$ for the given function.

$$w(t) = \sqrt[3]{\sin(t^5 + 4t)}$$
2. (3 points) Compute the second derivative $g''(x)$ for the given function.

\[ g(x) = \arctan(3e^{2x}) \]
3. (3 points) Find the equation of the line tangent to the given curve at the point $(-1, 2)$.

$$2xy^3 = 5x^3y - 6$$
4. (2 points) Compute $\frac{dy}{dx}$ for the given function. Write your answer completely in terms of $x$.

$$y = (e^{9x} + 5)x^2$$