1. (1 point) Simplify the following quantity.

\[ e^{-4 \ln (\sqrt{3})} \]

2. (3 points) Determine all values of \( x \) which satisfy the equation below.

\[ \ln \left( \frac{4x + 3}{9 - 5x} \right) = 2 \]
3. (3 points) Given that \( g(t) = \sqrt[3]{3 + 2e^{-t}} \), find a formula for \( g^{-1}(t) \).

4. (3 points) Determine the formula for an exponential function given that its graph goes through the points \((3, 54)\) and \((9, 24)\).