Quiz 4

1. (6 points) Evaluate the double integral

\[ \int_{0}^{8} \int_{\sqrt[4]{y}}^{2} \sqrt{x^4 + 1} \, dx \, dy \]

2. (6 points) Find \( \iint_{R} x \, dA \) where \( R \) is the region in the first quadrant of \( xy \)-plane bounded between the line \( y + 2x = 4 \), the circle \( x^2 + y^2 = 16 \), and \( y = 0 \).