1. Evaluate the indefinite integral

\[ \int \frac{\sin x}{1 + \cos x} \, dx. \]

Substitute \( u = 1 + \cos x \), \( du = -\sin x \, dx \):

\[
\int \frac{\sin x}{1 + \cos x} \, dx = \int \frac{-du}{u} = -\ln u + C = -\ln(1 + \cos x) + C.
\]

2. Sketch the region enclosed by the curves \( y = \sqrt{x} \), \( y = x/2 \), and find its area.

Find the endpoints by solving

\[ \sqrt{x} = x/2 \, \Rightarrow \, x = 2\sqrt{x} \, \Rightarrow \, x^2 = 4x \, \Rightarrow \, x(x - 4) = 0 \, \Rightarrow \, x = 0 \text{ or } x = 4. \]

The area is given by the definite integral

\[
\int_{0}^{4} \sqrt{x} - x/2 \, dx = \left[ \frac{2}{3}x^{3/2} - \frac{x^2}{4} \right]_{0}^{4} = 16/3 - 4 = 4/3.
\]