Solve the initial value problem
\[ \frac{dy}{dx} + 4y - e^{-x} = 0, \quad y(0) = \frac{4}{3}. \]

**SOLUTION:** The equation is linear with
\[ P(x) = 4, \quad Q(x) = e^{-x}. \]

Therefore, the integrating factor is
\[ \mu(x) = \exp \left( \int P(x) \, dx \right) = e^{4x}, \]

so the general solution is
\[
y = \frac{1}{\mu(x)} \left( \int \mu(x)Q(x) \, dx + C \right)
= e^{-4x} \left( \int e^{4x} e^{-x} \, dx + C \right)
= e^{-4x} \left( \frac{1}{3} e^{3x} + C \right).
\]

If \( y(0) = 4/3 \), then \( C = 1 \), so the solution to the initial value problem is
\[ y = \frac{1}{3} e^{-x} + e^{-4x}. \]