

Provide a clear and organized presentation. Show all of your work and completely simplify your answers. Evaluate each of the following integrals:

1.
$$\int x^2 \sqrt[3]{x+1} dx$$

2.
$$\int \frac{e^x \ln(e^x + \sqrt{e^{2x} - 1})}{\sqrt{e^{2x} - 1}} dx$$