

Solución

$$\text{a) } \int \frac{\sqrt{1+x}}{x} dx = 2\sqrt{1+x} - \ln(\sqrt{1+x} + 1) + \ln(\sqrt{1+x} - 1) + C = 2\sqrt{1+x} + \ln \frac{\sqrt{1+x} - 1}{\sqrt{1+x} + 1} + C$$

$$\text{b) } \int \frac{e^{3x}}{e^{3x} - e^x} dx = \frac{1}{2} \ln(e^x - 1) + \frac{1}{2} \ln(e^x + 1) + C = \frac{1}{2} \ln((e^x - 1)(e^x + 1)) + C = \frac{1}{2} \ln(e^{2x} - 1) + C$$