

2.85
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$$\textcircled{1} \quad \int \frac{C_2(2x+i)}{C_1x + C_2 \ln x} dx = \int \frac{-C_2 2x}{C_1x + C_2 \ln x} dx = \int \frac{C_2 \ln^2 x - C_2^2 x}{C_1x + C_2 \ln x} dx = \int (C_2 \ln x - C_2 x) dx =$$
$$= -C_2 x + C_2 \ln x + C$$

$$\textcircled{2} \quad \int \frac{e^x - e^{-x}}{e^x + 1} dx = \int \frac{e^{-x}(e^{2x} - 1)}{e^x + 1} dx = \int \frac{e^{-x}(e^x + 1)(e^x - 1)}{e^x + 1} dx = \int e^{-x}(e^x - 1) dx =$$
$$= \int (1 - e^{-x}) dx = x + e^{-x} + C$$