Given $f(x) = 3e^{x-5} + 4$, find $f^{-1}(x)$.

- To find the inverse of $y = f(x)$ we let $x = f(y)$ and solve for y.

- $x = 3e^{y-5} + 4$

- $x - 4 = 3e^{y-5}$

- $\dfrac{x-4}{3} = e^{y-5}$

- $\ln \dfrac{x-4}{3} = \ln\left(e^{y-5}\right) = y - 5$

- $y = 5 + \ln \dfrac{x-4}{3}$ and $f^{-1}(x) = 5 + \ln \dfrac{x-4}{3}$