Exponentialgleichungen Aufgabe 161

$2 * e^{2x-3} = e^{-x}$

Logarithmieren:

$\ln 2 * e^{2x-3} = \ln e^{-x}$

$\ln 2 + \ln e^{2x-3} = -x * \ln e$

$\ln 2 + (2x - 3) * \ln e = -x * \ln e$

$\ln 2 + 2x - 3 = - x \mid +x$

$\ln 2 + 3x - 3 = 0 \mid +3$

$\ln 2 + 3x = 3 \mid - \ln 2$

$3x = 3 - \ln 2 \mid :3$

$$\mathbf{x} = \frac{3 - \ln 2}{3} = \frac{3 - 0{,}6931}{3} = \mathbf{0{,}77}$$