

Z.C.2.5.16.

$$y' - y = e^x y^2$$

$$y^{-2} y' - y^{-1} = e^x$$

$$\text{Sätt: } z = y^{-1}, \quad z' = -y^{-2} y'.$$

$$-z' - z = e^x$$

$$z' + z = -e^x, \text{ linjär.}$$

$$\text{Multiplicera med } e^{\int 1 dx} = e^x.$$

$$e^x z' + e^x z = -e^x e^x$$

$$(e^x z)' = -e^{2x}$$

$$e^x z = -\frac{1}{2}e^{2x} + C$$

$$z = Ce^{-x} - \frac{1}{2}e^x$$

$$\frac{1}{y} = \frac{C}{e^x} - \frac{e^x}{2}$$

$$y = \frac{2e^x}{2C - e^{2x}}$$