7) $2e^x = 6$

$\frac{2e^x}{2} = \frac{6}{2}$

$e^x = 3$

$\ln(e^x) = \ln 3$

$x = \ln(3)$

$\approx$

$\ln(e^x)$

9) $4e^x + 1 = 6$

$4e^x = 6 - 1$

$4e^x = 5$

$\frac{4e^x}{4} = \frac{5}{4}$

$e^x = \frac{5}{4}$

$\ln e^x = \ln \frac{5}{4}$

$x = \ln\left(\frac{5}{4}\right) \approx 0,22$

11) $4e^{x^2} - 3 = 6$

$4e^{x^2} = 6 + 3$

$4e^{x^2} = 9$

$\frac{4e^{x^2}}{4} = \frac{9}{4}$

$e^{x^2} = \frac{9}{4}$

$\ln(e^{x^2}) = \ln\left(\frac{9}{4}\right)$

$x^2 = \ln\left(\frac{9}{4}\right) \approx 0,81 > 0$

$x = \sqrt{\ln\left(\frac{9}{4}\right)}$ ou $x = -\sqrt{\ln\left(\frac{9}{4}\right)}$

$x \approx 0,9$ ou $x \approx -0,9$

$x^2 = 4$

$x = 2$ ou $x = -2$

$2 = \sqrt{4}$

$x^2 = 3$

$x = \sqrt{3}$ ou $x = -\sqrt{3}$

car $\sqrt{3}^2 = 3$ et $\left(-\sqrt{3}\right)^2 = 3$

(8) $-3e^x = -9$

$e^x = \frac{-9}{-3} = 3$

$\ln(e^x) = \ln(3)$

$x = \ln(3)$

(10) $-5e^{-x} + 1 = -1$

$-5e^{-x} = -1 - 1 = -2$

$e^{-x} = \frac{-2}{-5} = \frac{2}{5}$

$\ln e^{-x} = \ln \frac{2}{5}$

$-x = \ln \frac{2}{5}$

$x = -\ln \frac{2}{5}$

(12) $-4e^{x+1} - 3 = 1$

$-4e^{x+1} = 1 + 3 = 4$

$e^{x+1} = \frac{4}{-4} = -1 < 0$

Pas de solution car exp > 0.