

26. $x^2 10^x - x 10^x = 2(10^x) \Leftrightarrow x^2 10^x - x 10^x - 2(10^x) = 0 \Leftrightarrow 10^x(x^2 - x - 2) = 0 \Rightarrow$
 $10^x = 0$ (never) or $x^2 - x - 2 = 0$. If $x^2 - x - 2 = 0$, then $(x - 2)(x + 1) = 0 \Rightarrow x = 2, -1$.
 So the only solutions are $x = 2, -1$.

28. $x^2 e^x + x e^x - e^x = 0 \Leftrightarrow e^x(x^2 + x - 1) = 0 \Rightarrow e^x = 0$ (impossible) or $x^2 + x - 1 = 0$.
 If $x^2 + x - 1 = 0$, then $x = \frac{-1 \pm \sqrt{5}}{2}$. So the solutions are $x = \frac{-1 \pm \sqrt{5}}{2}$.

30. $e^{2x} - e^x - 6 = 0 \Leftrightarrow (e^x - 3)(e^x + 2) = 0 \Rightarrow e^x + 2 = 0$ (impossible) or $e^x - 3 = 0$. If
 $e^x - 3 = 0$, then $e^x = 3 \Leftrightarrow x = \ln 3 \approx 1.0986$. So the only solution is $x \approx 1.0986$.

32. $e^x - 12e^{-x} - 1 = 0 \Leftrightarrow e^x - 1 - 12e^{-x} = 0 \Leftrightarrow e^x(e^x - 1 - 12e^{-x}) = 0 \cdot e^x \Leftrightarrow$
 $e^{2x} - e^x - 12 = 0 \Leftrightarrow (e^x - 4)(e^x + 3) = 0 \Rightarrow e^x + 3 = 0$ (impossible) or $e^x - 4 = 0$.
 If $e^x - 4 = 0$, then $e^x = 4 \Leftrightarrow x = \ln 4 \approx 1.3863$. So the only solution is $x \approx 1.3863$.