1.

   Solve the equation $4|5^x - 1| = 5^x$, giving your answers correct to 3 decimal places. [4]

Find the value of x for which $3(2^{1-x}) = 7^x$. Give your answer in the form $\dfrac{\ln a}{\ln b}$, where a and b are integers. [4]

Solve the equation $4^{x-2} = 4^x - 4^2$, giving your answer correct to 3 decimal places. [4]