Question —— assigned:

Bring four *blank* green books to your TA, unless you have already done so. If you have already brought 4 green books to your TA, pat yourself on the back.

1. Find the rate of convergence of the sequence $\lim\limits_{h \to 0} \frac{1-e^h}{h} = 1$.

2. Give the second Taylor polynomial and the remainder term of Taylor's theorem of the function $f(x) = e^{-2x}$ at the point 0.1.

3. Compute the relative error made for $p = 12.56$ and $p^* = 12.55$. Is this sufficient to have 10^{-8} accuracy ? Explain why.