

Name: _____

1. Show that the Bisection Method can be applied to find the root α of $e^{-x} - x = 0$ on the interval $[0, 1]$.

2. Perform three iterations of the Bisection Method to find the midpoint at the end of the third iteration. Take $\varepsilon = 10^{-4}$.

3. What is the minimum number of iterations required to find α within an accuracy of 10^{-6} . Recall that $|\alpha - c_n| < \frac{(b-a)}{2^n}$. Please simplify the answer so that there is no log term involved.