Name: Solutions

If you start the bisection method with an interval of length 1, how many times must you evaluate the objective function in order to approximate the root to within a tolerance of $\frac{1}{16}$? Explain your thinking for any chance of partial credit.

Iteration #	Max Error	Total F'n Evaluations
0	$1/2$	$2 \ (f(a) + f(b))$
1	$1/4$	3
2	$1/8$	4
3	$1/16$	$\boxed{5}$

You must evaluate the objective function 5 times.