Homework 10, Graded Problems

Let \( f(x) = \sin \pi x - x^2 \).

1. Graph \( f(x) \) on the domain \(-1 \leq x \leq 1\). Use graph paper. Be sure that your graph is properly labeled.

2. Find the linearization of \( f(x) \) at the point \( x = 0.5 \).

3. Graph your linearization on the same axes as your graph of \( f(x) \).

4. Use the linearization to find the approximate location of the non-zero root of \( f(x) \).