

3.12-Newton's Method

Recall: In 2.5, we introduced the Bisection Method for solving equations. This method is long and tedious. Here we introduce another method for solving equations.

The *Linear Approximation* of f at x_0 is given by

Set this equal to 0 and solve for x . What do you obtain?

Example: Given $x_0 = 1$ is an approximate solution of $x^2 = 2$, find the solution to 4 decimal places using Newton's Method.

On Your Own: 3.12 #1, 3, 7, 9, 13