

Name: _____

Evaluation 10

Introductory Programming
Fall 2005

For this evaluation, please write a draft of your program in the space below; that is, don't try to get it working (yet).

Possibly the simplest numerical method in the world is the "iteration method" for solving non-linear equations. Given an equation like $f(x) = 0$, the first step is to rewrite the equation so that it has a simple x term on the left side, as in $x = g(x)$. For example, if we wanted to solve

$$f(x) = x^2 - 2x - 3 = 0 \quad (1)$$

We could rewrite it as

$$x = g(x) = \sqrt{2x + 3} \quad (2)$$

And then given an estimate of the solution, x_0 , we could compute a new (better?) estimate x_1 :

$$x_1 = g(x_0) = \sqrt{2x_0 + 3} \quad (3)$$

1. Write a MATLAB function named `g` that computes $g(x) = \sqrt{2x + 3}$. You might want to use *your* square root function rather than the one provided by MATLAB.

