Homework 2

1. Problem 1.20

2. For the following two computations demonstrate loss-of-significance as x → 0:

$$\sqrt{1+x} - 1$$

   Modify the computation to avoid cancellation. Create a table to show the results of the original computation and the modified approximation for $x = 10^i$, $i = [-1, -2, \ldots, -16]$. For each computation, how small must x be in order for cancellation to be a problem.

Note: please print out your matlab code and results.