1. d)  
   j and k are not variables that should be shared between threads as each thread needs to loop through the full range.  
     
   e)  
   3 OpenMP pragmas could be used, but as the first one will already be utilising all processors there will not be any benefit.

5. Roughly 2.225 × 10-16:

F(x) = x\*x - 2 = 0

Newton-Raphson Method

Enter initial guess: 1

Enter maximum iterations: 10

Enter algorithm tolerance: 2.225e-16

Using 5 iterations, the root of F(x) = 0 has been calculated as:

x = 1.414213562373

This has a residue of -4.440892099e-016

6.

F(x) = J\_0(x)

F'(x) = J\_1(x)

Newton-Raphson Method

Enter initial guess: 1

Enter maximum iterations: 2000

Enter algorithm tolerance: 0.00001

Using 1868 iterations, the root of F(x) = 0 has been calculated as:

x = -2850.210440825214

This has a residue of -0.01494519371