Q2

require:  
Therefore g(x) is a contraction mapping for these two ranges.  
  
*We know there is a root at so the interval is the one we need.  
Note that therefore g is decreasing. We’ll find the edges of the interval:  
We’ll find the maximal x where the interval requirement holds:  
So within that interval, g is a contraction mapping where all other convergence requirements hold.*

*Therefore, the convergence occurs at*