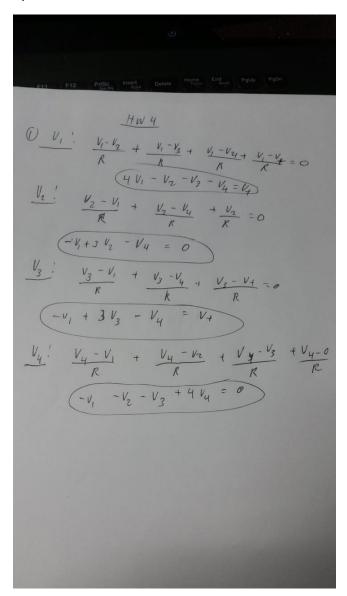
Problem 1:

A)



Above is the written solution to part A, simply solved the equations using Kirchoff's law.

Above is the solution when using Gaussian elimination. The roots are 3, 1.67, 3.33, 2.0 for V1 through V4 respectively.