

## HOMEWORK # 2

Make up five circuits of your own, and formulate the modified nodal equations for each one *using element stamps*. The circuits should satisfy the following:

CIRCUIT 1 should contain only resistors, independent voltage sources and independent current sources.

CIRCUIT 2 should contain at least one ideal op amp, resistors and an independent voltage source.

CIRCUITS 3, 4 and 5 should contain different types of controlled sources (make sure that each type of controlled source is represented at least once in these circuits).

In all five cases, check your work by writing Kirchoff's current law equations for each node. Show that matrix  $G$  and vector  $w$  are the same as the ones obtained using stamps.