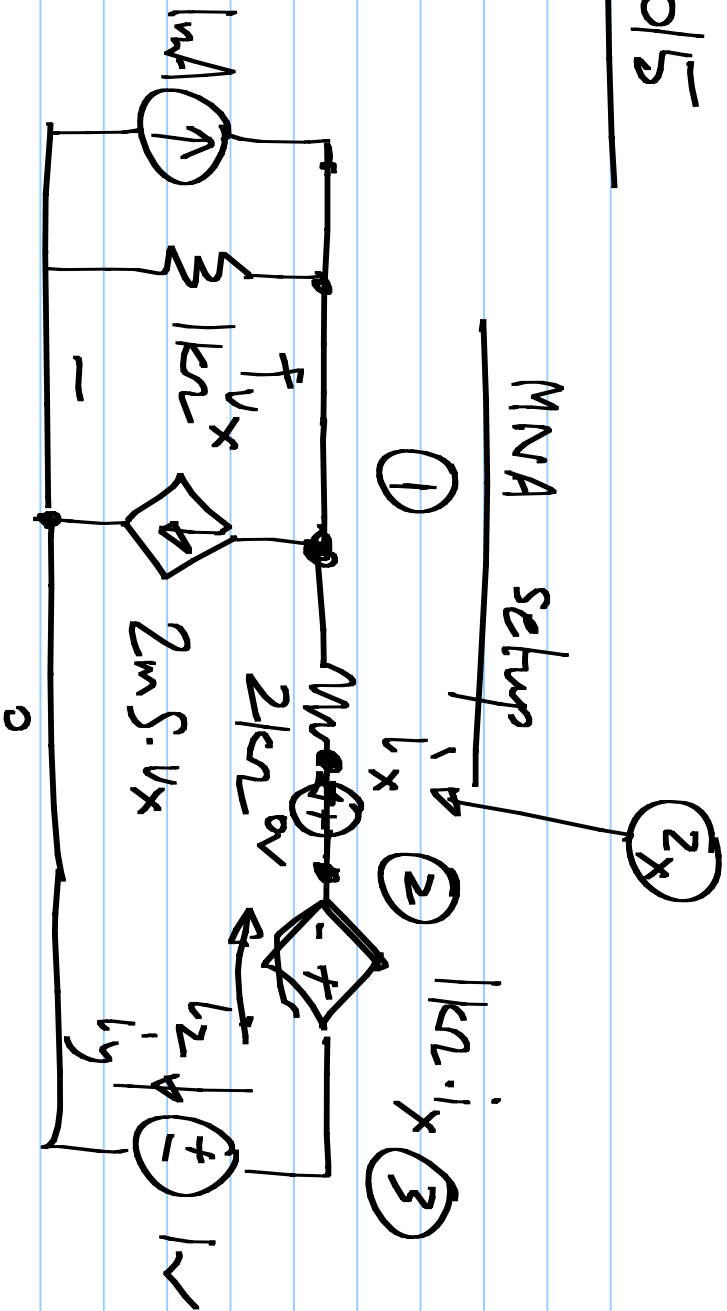


EE2015

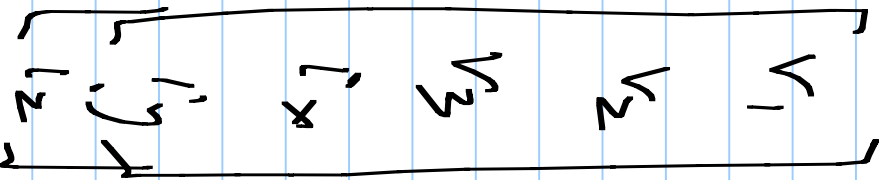
21/8/2017

MNA setup



$$[G] V = I_s$$

5×5 5×1

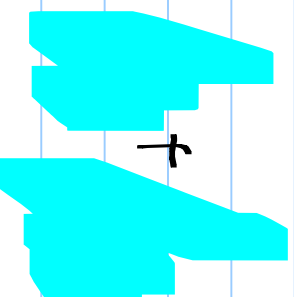


Circuit theorems

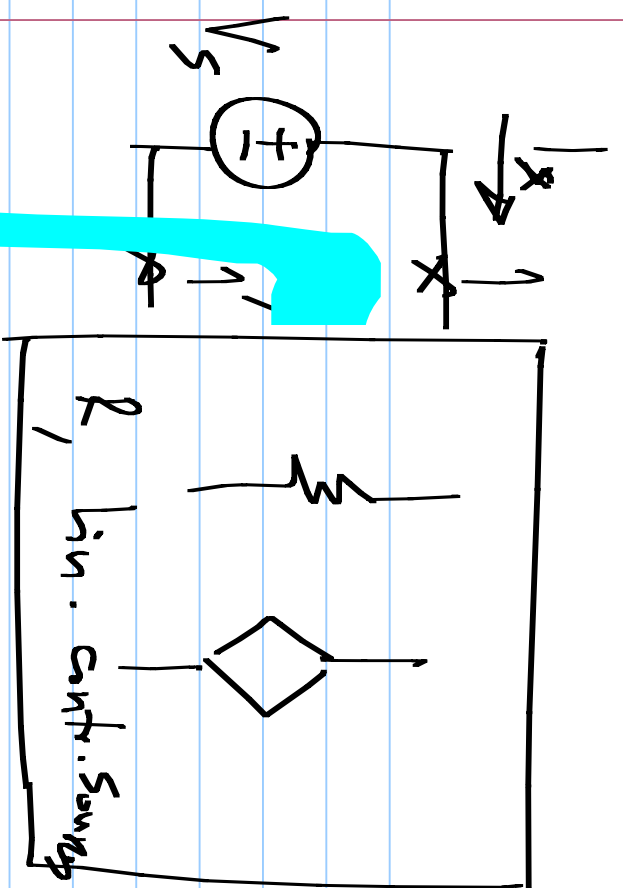
* Superposition: A circuit with independent v, i sources & linear elements (R, CCVS, VCCS, CCVS, CCCS) can be analyzed by making one ^{independent} source active at a time while setting the other sources to

Zero.

$$\underline{V} = [\underline{A}]^{-1} \underline{I}_s \quad \underline{I}_s =$$



$$I_x = () \cdot V_s$$



$$() I_1 + () I_2 + ()$$

$$[A]^{-1} \begin{bmatrix} I_1 \\ I_2 \\ \vdots \\ V_s \\ V_s \\ V_s \end{bmatrix}$$