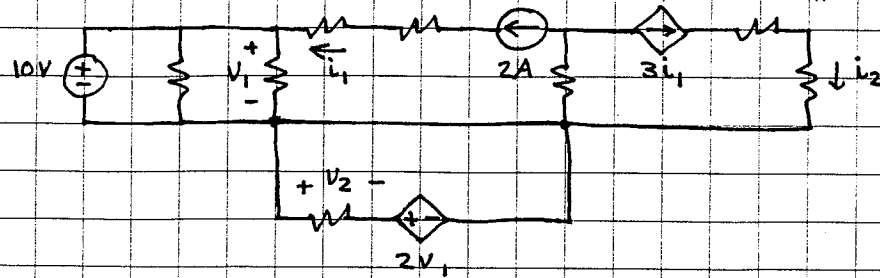
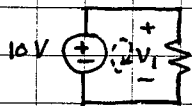


ex:



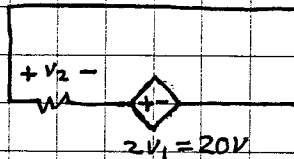
Find:  $V_1, V_2, i_1, i_2$ .

soln:  $V_1 = 10V$  from closed loop w/ 10V source and R for  $V_1$ . True even with intervening R.



$$10V - V_1 = 0V$$

$V_2 = -2V_1 = -20V$  from closed <sup>loop</sup> involving only 2V<sub>1</sub> source and R for  $V_2$

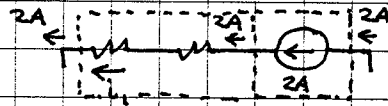


$$2V_1 + V_2 = 0V \quad 20 + V_2 = 0V$$

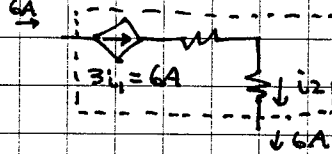
$$V_2 = -20V$$

$$i_1 = 2A$$

$i_1 = 2A$  because resistor for  $i_1$  is in series with 2A source. 0A net current flows out of the dotted boxes.



$$i_2 = 3i_1 = 6A$$



$i_2 = 3i_1$  because resistor for  $i_2$  is in series with dependent source that creates  $i = 6A$ . Current flow into dotted box = 6A.  $\therefore$  current flow out of dotted box = 6A.