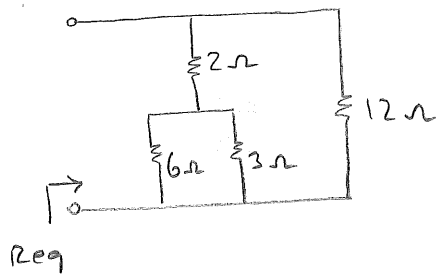
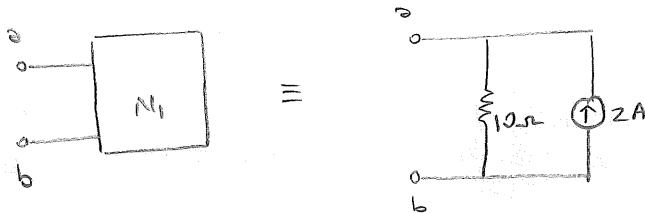
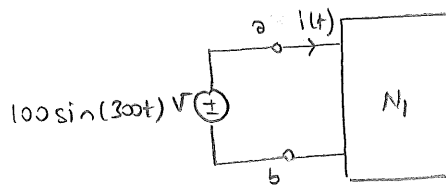
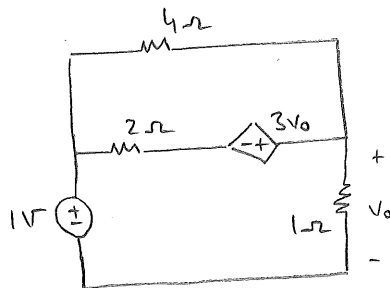


PROBLEM SET II12

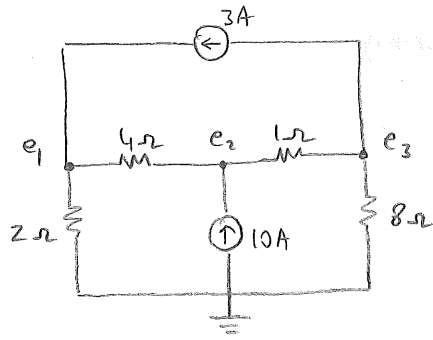
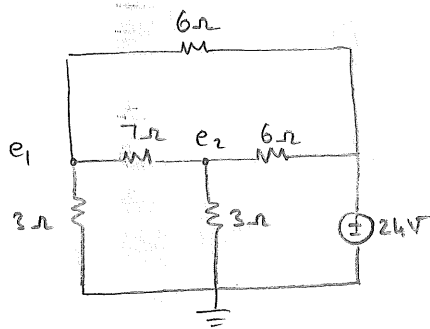
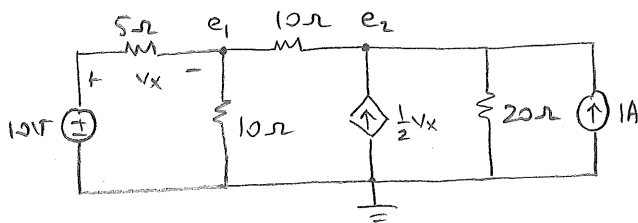
The one-port  $N_1$  is equivalent to the circuit below



Find  $i(t)$  in the following circuit.

3

Using node analysis find  $V_o$ .

4Find  $e_1, e_2, e_3$ .5Find  $e_1, e_2$ , and the power dissipated on the  $7\Omega$  resistor.6Find  $e_1, e_2$ , and the power supplied / absorbed by the dependent source.

KE-1

$$\underline{1)} \quad R_{eq} = 3\Omega$$

$$\underline{2)} \quad i(t) = 10 \sin(300t) - 2 \text{ A}$$

$$\underline{3)} \quad v_o = 3 \text{ V}$$

$$\underline{4)} \quad e_1 = 14 \text{ V}, e_2 = 30 \text{ V}, e_3 = 24 \text{ V}$$

$$\underline{5)} \quad e_1 = 8 \text{ V}, e_2 = 8 \text{ V}, P_{7\Omega} = 0$$

$$\underline{6)} \quad e_1 = 9 \text{ V}, e_2 = 16 \text{ V}, P_{\diamond} = 8 \text{ W (supplied)}$$