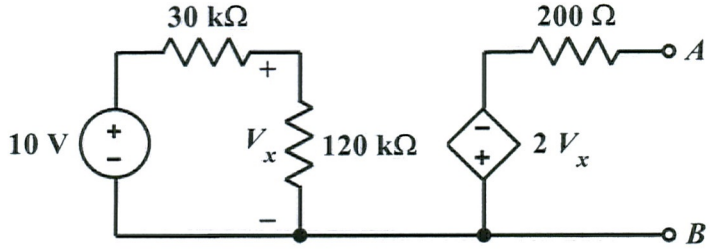
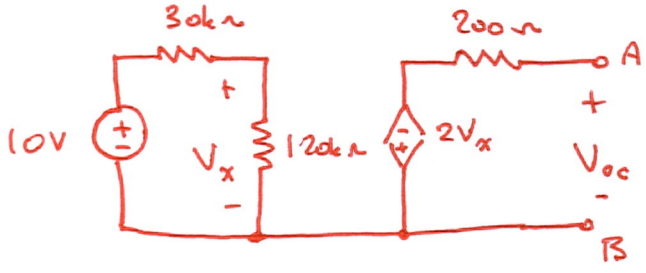
EE 2240

Homework Problem #32

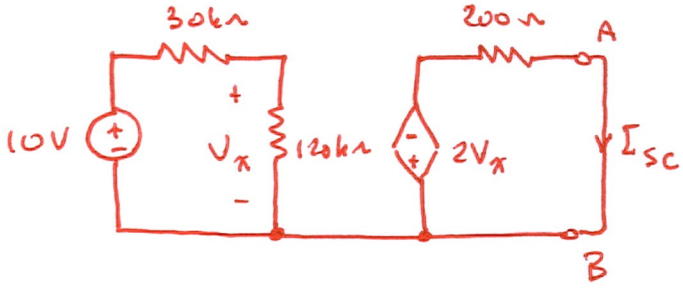


Find the Norton equivalent circuit with respect to terminals *A* and *B*.



$$V_x = \frac{120\,k\Omega}{150\,k\Omega} \cdot 10\,V = 8\,V$$

$$V_{oc} = -2V_x = -16\,V$$



$$V_x = \frac{120\,k\Omega}{150\,k\Omega} \cdot 10\,V = 8\,V$$

$$I_{sc} = -\frac{2V_x}{200\,\Omega} = -0.08\,A$$

$$\therefore\ I_N = I_{sc} = -0.08\,A$$

$$R_N = \frac{V_{oc}}{I_{sc}} = \frac{-16\,V}{-0.08\,A} = 200\,\Omega$$

The Norton equivalent circuit is: