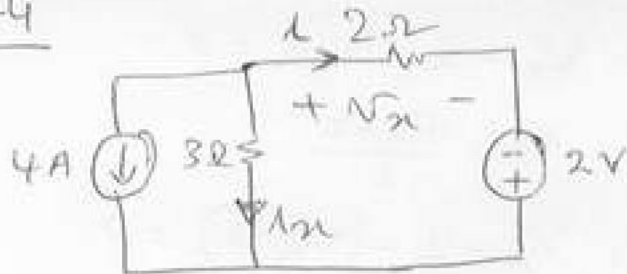


Home Work # 3 Solution

206-4



$$4 + 12i + i = 0$$

$$4 + \frac{V_x - 2}{3} + \frac{V_x}{2} = 0$$

$$-4 + 2V_x + 24 + 3V_x = 0$$

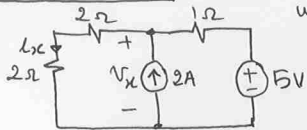
$$5V_x = -24 + 4 = -20$$

$$V_x = -4V$$

$$i_x = \frac{V_x - 2}{3} = \frac{-4 - 2}{3} = \underline{\underline{-2A}}$$

Home Work # 3 Solution

Ch.2. Pr. 2.7-3



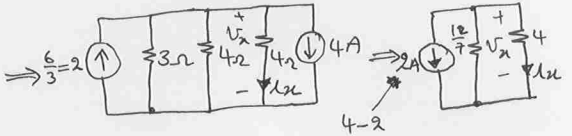
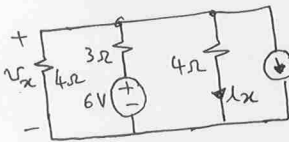
using source transformation we get:



$$I_x = (5+2) \times \frac{1}{4+1} = \frac{7}{5} \text{ A}$$

$$V_x = 4 \times I_x = 4 \times \frac{7}{5} = \frac{28}{5} \text{ V}$$

Pr. 2.7-5

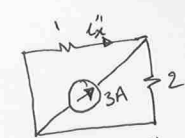
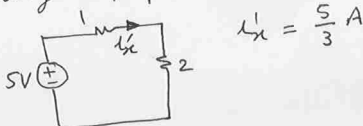
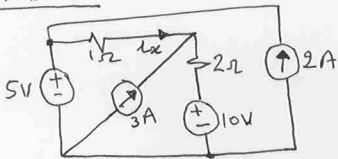


$$I_x = -2 \times \frac{\frac{12}{7}}{\frac{12}{7} + 4} = -2 \times \frac{12}{12 + 28} = -\frac{3}{5} \text{ A}$$

$$V_x = 4 I_x = -\frac{12}{5} \text{ V}$$

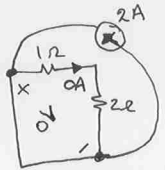
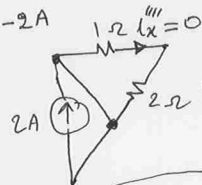
Ch.3 Pr. 3.1-2

using superposition



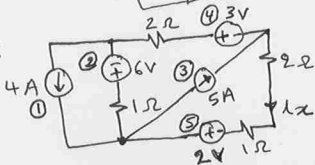
$$-I''_x = 3 \times \frac{2}{3} = 2 \text{ A} \Rightarrow I''_x = -2 \text{ A}$$

$$I'''_x = -\frac{10}{3} \text{ A}$$



$$\therefore I_x = I'_x + I''_x + I'''_x + I_x = \frac{5}{3} - 2 - \frac{10}{3} + 0 = -\frac{11}{3} \text{ A}$$

Ch.3 Pr. 3.1-4



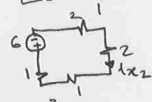
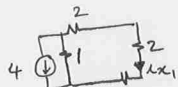
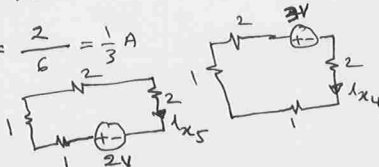
$$I_{x1} = 4 \times \frac{1}{5+1} = -\frac{2}{3} \text{ A}$$

$$I_{x2} = -\frac{6}{6} = -1 \text{ A}$$

$$I_{x3} = 5 \times \frac{3}{6} = \frac{5}{2} \text{ A}$$

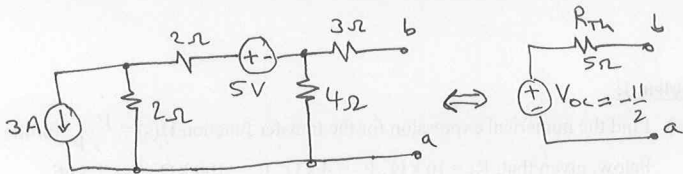
$$I_{x4} = -\frac{3}{6} \text{ A} = -\frac{1}{2} \text{ A}, \quad I_{x5} = \frac{2}{6} = \frac{1}{3} \text{ A}$$

$$\therefore I_x = -\frac{2}{3} - 1 + \frac{5}{2} - \frac{1}{2} + \frac{1}{3} = \frac{2}{3} \text{ A}$$

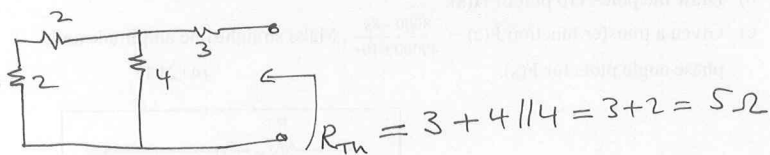


Home Work # 3 Solution

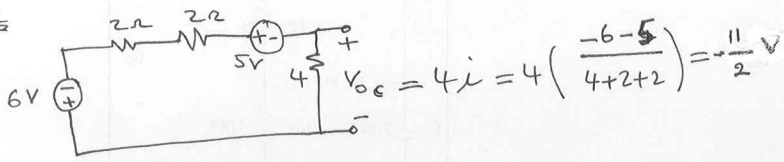
3.2-2



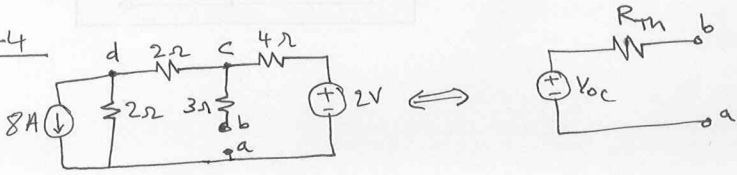
R_{Th}



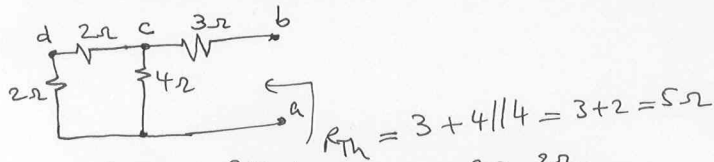
V_{oc}



3.2-4



R_{Th}



V_{oc}

