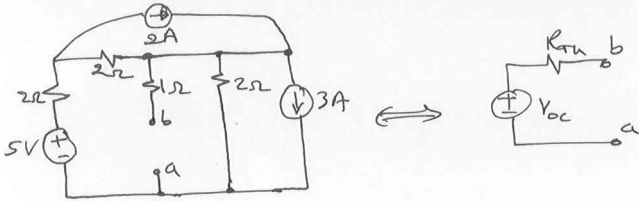
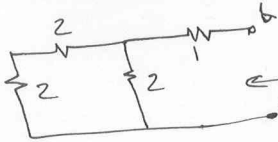


Home Work # 4 Solution

3.2.6

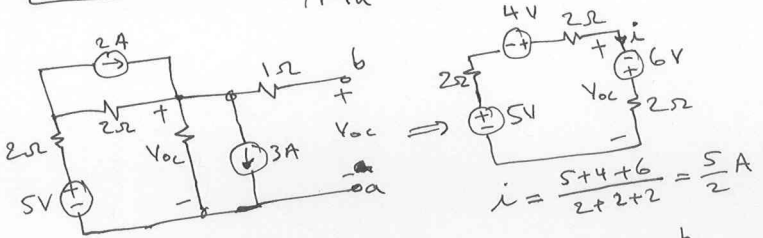


R_{th}



$$R_{th} = 1 + 2 \parallel 2 = 1 + \frac{2 \cdot 2}{2+2} = 1 + \frac{4}{4} = 2 \Omega$$

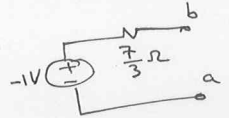
V_{oc}



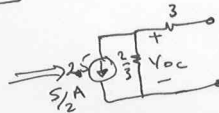
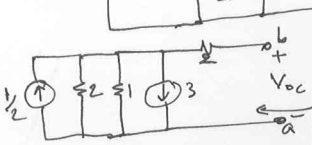
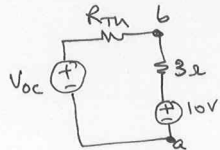
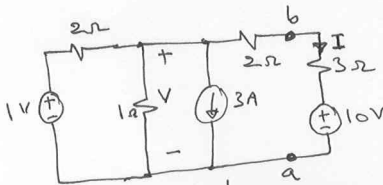
$$i = \frac{5 + 4 + 6}{2 + 2 + 2} = \frac{5}{2} \text{ A}$$

$$V_{oc} = -6 + 2i = -6 + 2 \cdot \frac{5}{2} = -1 \text{ V}$$

$$\text{or } V_{oc} = 5 + 4 - (2+2)i = 9 - 4 \cdot \frac{5}{2} = -1 \text{ V}$$

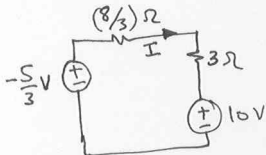


3.2-12



$$V_{oc} = -2.5 \cdot \frac{2}{3} = -\frac{5}{3} \text{ V}$$

$$R_{th} = 2 + \parallel 2 = 2 + \frac{2}{2} = \frac{8}{3} \Omega$$

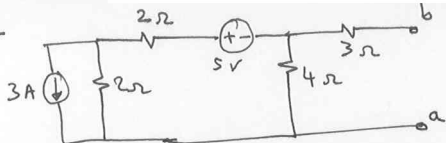


$$I = \frac{-10 - \frac{5}{3}}{\frac{8}{3} + 3} = \frac{-\frac{35}{3}}{\frac{17}{3}} = -\frac{35}{17} \text{ A}$$

$$\therefore V = 10 + I(3+2) = 10 - \frac{35}{17}(5) = \frac{170 - 175}{17} = -\frac{5}{17} \text{ V}$$

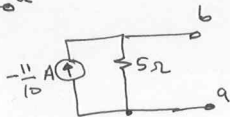
Home Work # 4 Solution

3.3-2

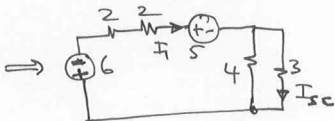
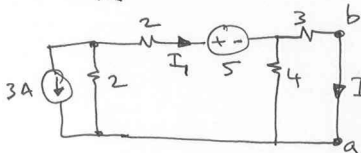


$R_{Th} = 3 + 4 \parallel 4 = 5\Omega$ as
in pb # 3.2-2

$$I_{sc} = \frac{V_{oc}}{R_{Th}} = \frac{-11/2}{5} = -\frac{11}{10} \text{ A}$$



or

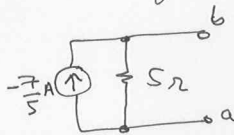


$$I_{sc} = I_1 \frac{4}{7}, \quad I_1 = -\frac{5+6}{4+4 \parallel 3} = -\frac{11}{4 + \frac{12}{7}} = -\frac{11}{\frac{40}{7}} = -\frac{77}{40}$$

$$= -\frac{77}{40} \cdot \frac{4}{7} = -\frac{11}{10} \text{ A} \quad \& \quad R_{Th} = 5\Omega \text{ as before}$$

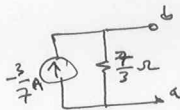
3.3-4

see 3.2-4 $R_{Th} = 5\Omega$
 $V_{oc} = -7V \Rightarrow I_{sc} = \frac{-7}{5} \text{ A}$



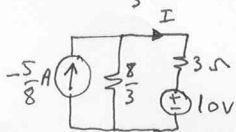
3.3-6

see 3.2-6 $R_{Th} = \frac{7}{3}\Omega$
 $V_{oc} = -1V \Rightarrow I_{sc} = \frac{-1}{7/3} = -\frac{3}{7} \text{ A}$



3.3-12.1

see 3-2-12 $R_{Th} = \frac{8}{3}\Omega$
 $V_{oc} = -\frac{5}{3}V \Rightarrow I_{sc} = \frac{3}{8}(-\frac{5}{3}) = -\frac{5}{8} \text{ A}$



for V_k go to original circuit
and see pb # 3.2-12