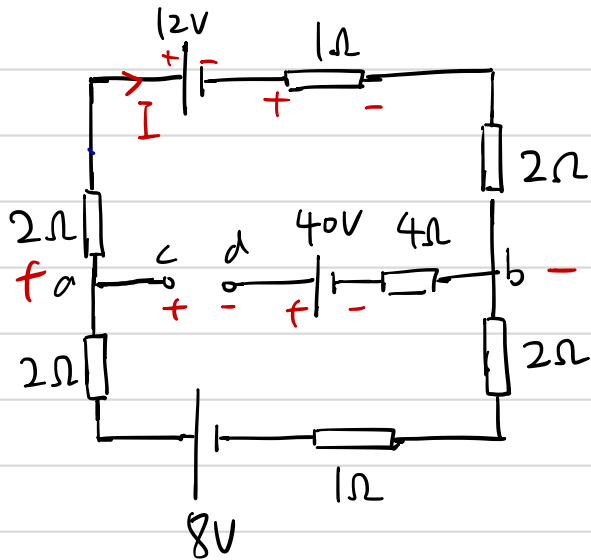


13):



Find  $U_{ab}$  and  $U_{cd}$

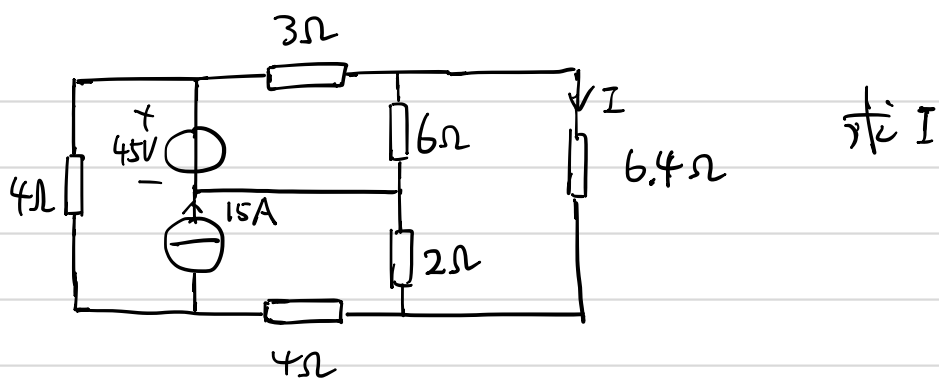
$$U_{ab} = U_{cd} + 40V$$

$$12 + 1 \cdot I + 2I + 2I + I - 8 + 2I + 2I = 0 \quad I = -0.4A$$

$$12 + (1 + 2 + 2)I - U_{ab} = 0 \quad U_{ab} = 10V$$

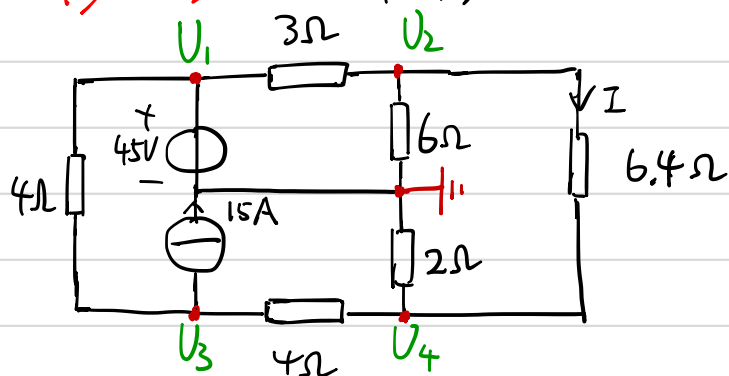
另:  $U_{ab} + (2 + 2 + 1)I - 8 = 0 \quad U_{ab} = 10V$

131:



$\frac{1}{6.4} I$

节点法: 5个节点



$$U_1 = 45V$$

$$\frac{1}{3}U_1 + \left(\frac{1}{3} + \frac{1}{6} + \frac{1}{6.4}\right)U_2 - \frac{1}{6.4}U_4 = 0$$

$$-\frac{1}{4}U_1 + \left(\frac{1}{4} + \frac{1}{4}\right)U_3 - \frac{1}{4}U_4 = -15$$

$$-\frac{1}{6.4}U_2 - \frac{1}{4}U_3 + \left(\frac{1}{4} + \frac{1}{2} + \frac{1}{6.4}\right)U_4 = 0$$

$$U_1 = 45V$$

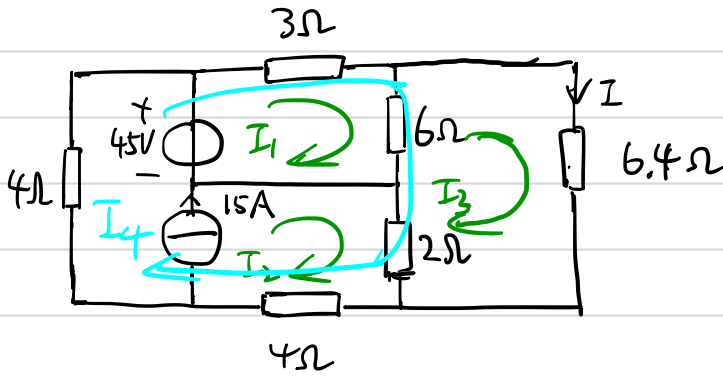
$$U_2 = 23.4V$$

$$U_3 = -6.36V$$

$$U_4 = 2.28V$$

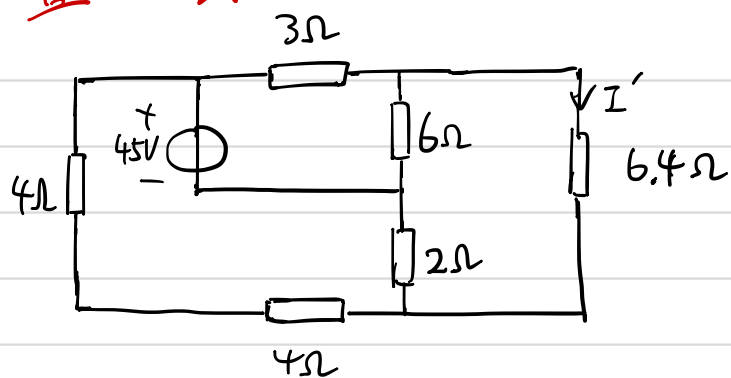
$$I = \frac{U_2 - U_4}{6.4\Omega} = 3.3A$$

回路法.

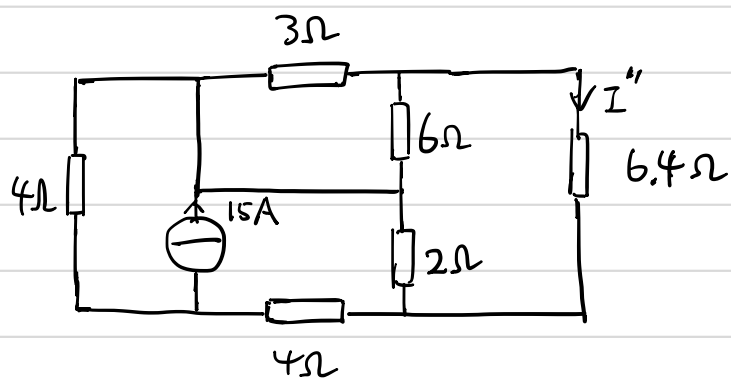


$$\begin{cases} (3+6)I_1 - 6I_3 + (3+6)I_4 = 45 \\ I_2 = 15A \\ -6I_1 - 2I_2 + (2+6+6.4)I_3 - (2+6)I_4 = 0 \\ (3+6)I_1 + (2+4)I_2 - (2+6)I_3 + (3+6+2+4)I_4 = 0 \end{cases}$$
$$I = I_3 = 3.3A$$

又  
~~22~~  
12 叠加法.



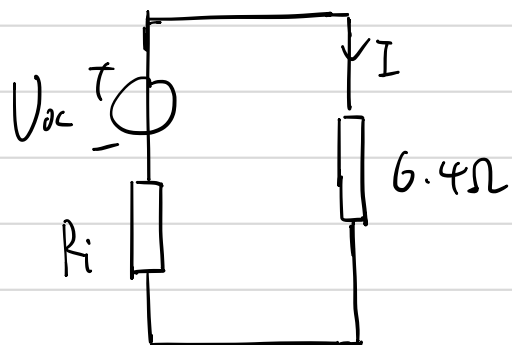
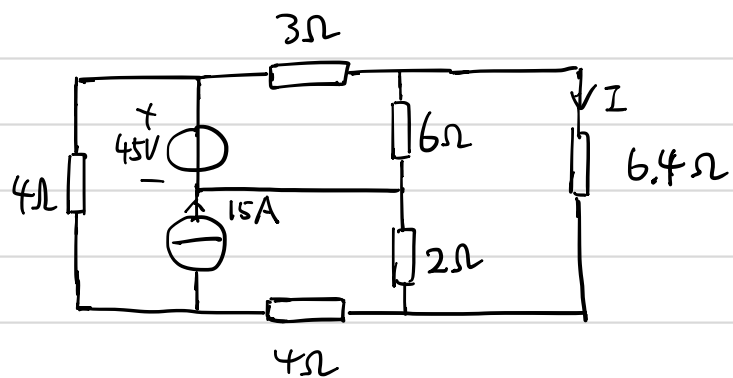
用回路法/节点法  $I' = 2.1A$



$$I'' = 1.2A$$

$$I = I' + I'' = 3.3A$$

戴维南



① 求  $V_{oc}$  :

