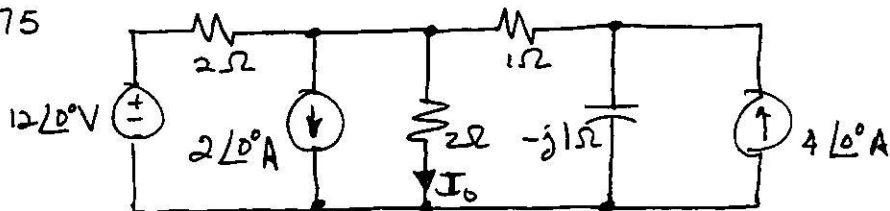
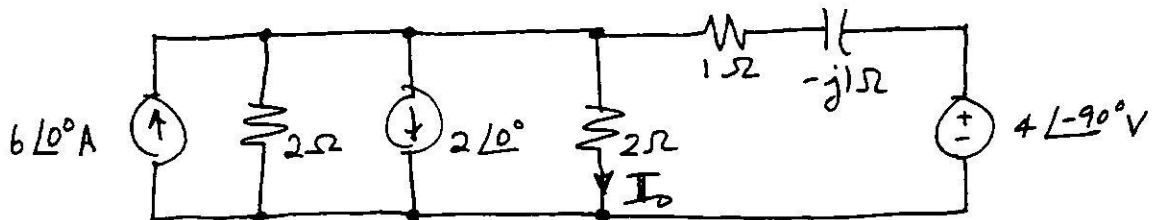


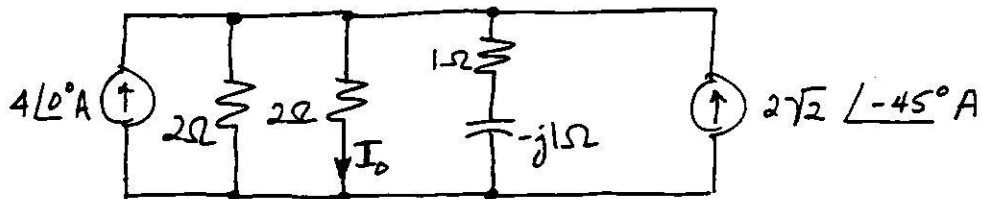
8.75



Source Transformation for the  $12\angle 0^\circ \text{V}$  and  $4\angle 0^\circ \text{A}$  sources.



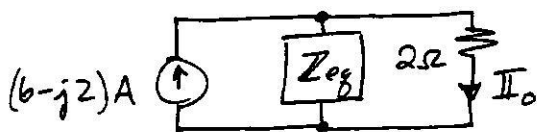
Source transformation for the  $4\angle -90^\circ \text{V}$  source



$$Z_{eq} = 2 \parallel (1 - j1) = \frac{2 - j2}{3 - j1}$$

$$I_{eq} = 4 + 2\sqrt{2} \angle -45^\circ = 6 - j2$$

Equivalent circuit



$$I_o = (6 - j2) \left[ \frac{Z_{eq}}{Z_{eq} + 2} \right] = (6 - j2) \left[ \frac{2 - j2}{2 - j2 + 6 - j2} \right] = \frac{(6 - j2)(2 - j2)}{8 - j4}$$

$$I_o = \frac{(3 - j1)(1 - j1)}{2 - j1} = 2 \angle -36.87^\circ \text{A}$$