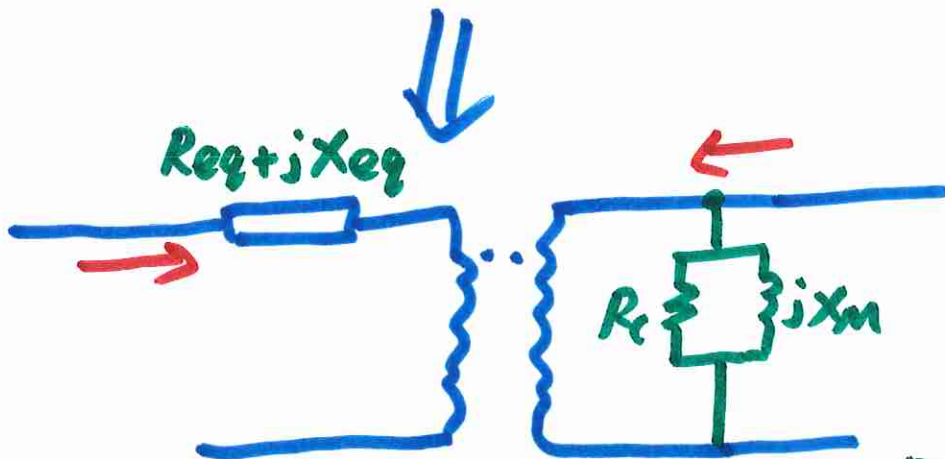
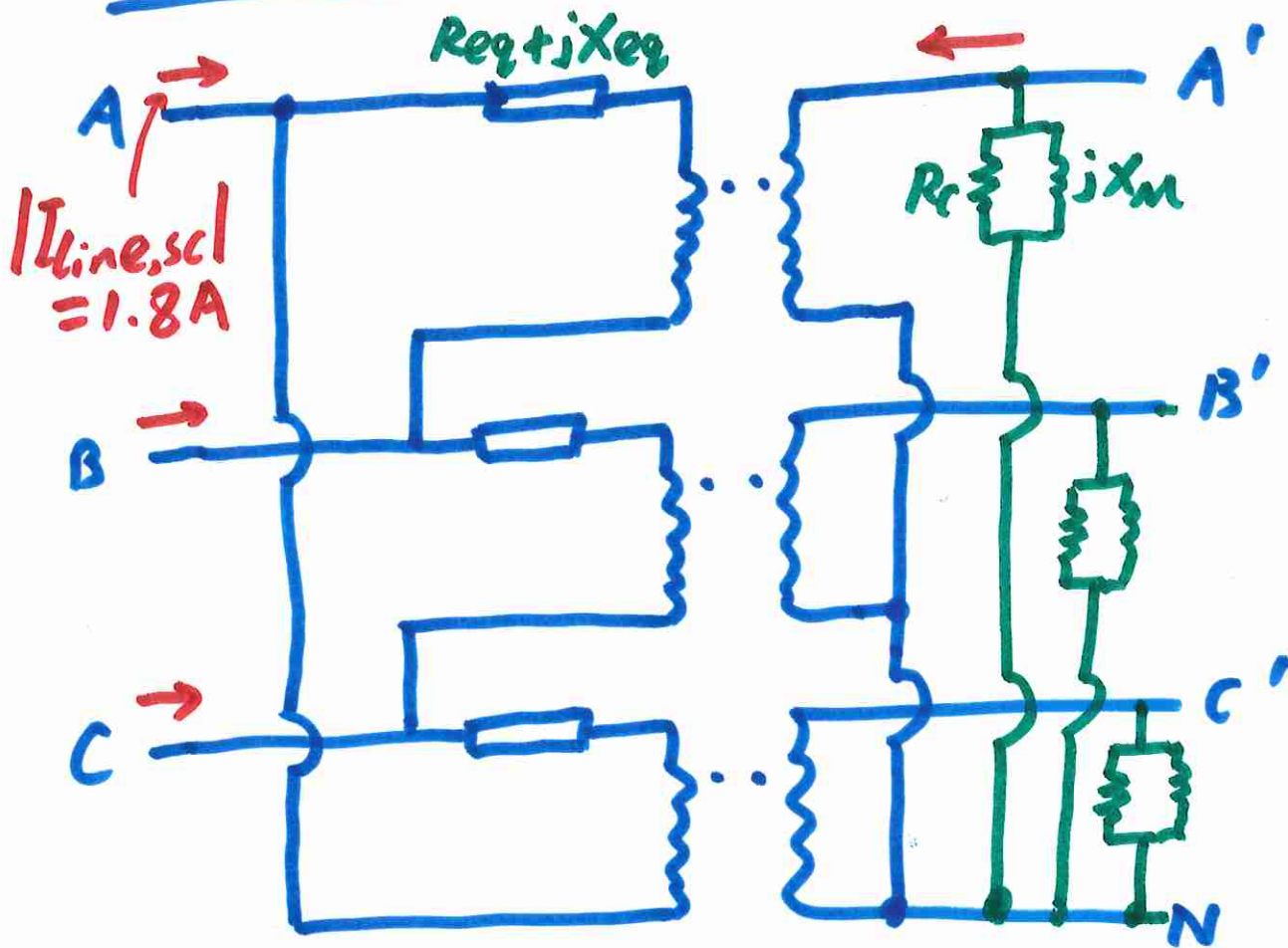


Problem 2-12



$$P_{\phi,sc} = \frac{P_{3\phi,sc}}{3}$$

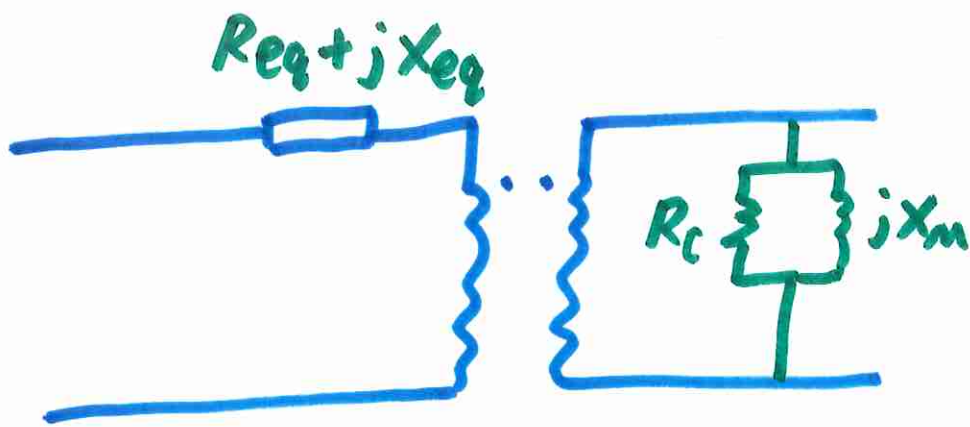
$$P_{\phi,oc} = \frac{P_{3\phi,oc}}{3}$$

$$|V_{\text{phase},sc}| = |V_{\text{line},sc}| = 1400 \text{ V}$$

$$|V_{\text{phase},oc}| = 480 / \sqrt{3} \text{ V}$$

$$|I_{\text{phase},sc}| = \frac{1.8}{\sqrt{3}} \text{ A}$$

$$|I_{\text{line},oc}| = 4.1 \text{ A} \\ = |I_{\text{phase},oc}|$$



$$S_{\phi, b} = 20 \text{ kVA}$$

$$V_{\phi b \ell} = 24 \text{ kV}$$

$$V_{\phi b \ell \ell} = 277 \text{ V}$$

$$Z_{b \ell} = \frac{V_{\phi b \ell}^2}{S_{\phi, b}}$$

$$Z_{b \ell \ell} = \frac{V_{\phi b \ell \ell}^2}{S_{\phi, b}}$$

$$R_{eq \text{ pu}} + jX_{eq \text{ pu}} = \frac{R_{eq} + jX_{eq}}{Z_{b \ell}}$$

$$R_{c \text{ pu}} = \frac{R_c}{Z_{b \ell \ell}}$$

$$jX_{m \text{ pu}} = \frac{jX_m}{Z_{b \ell \ell}}$$