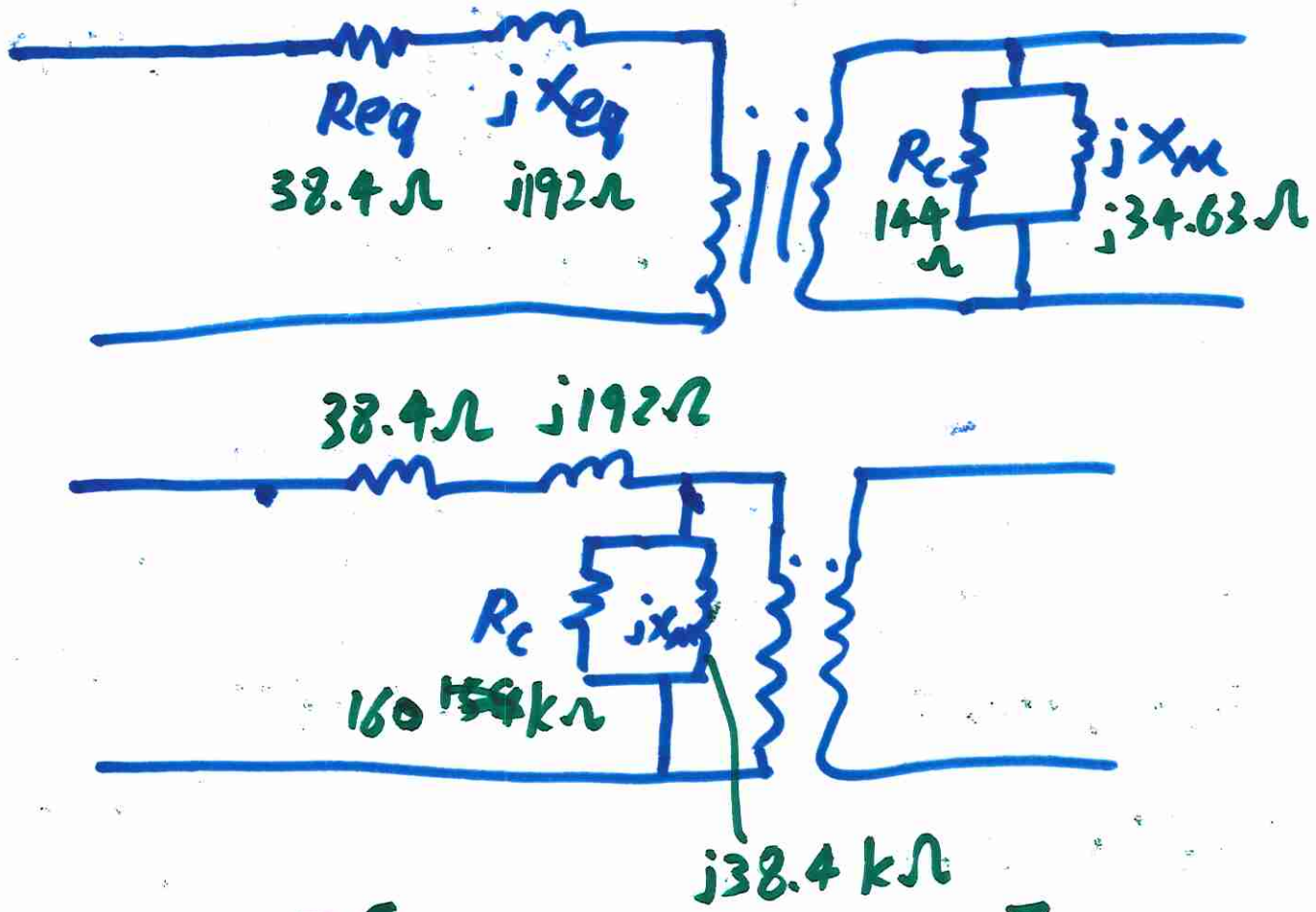
100 : 3

8000 : 240




$Z_{base,I} = \frac{160\,k\Omega}{100\,\Omega} = 1600\,\Omega$

$R_{c,pu,I} = \frac{160\,k\Omega}{1600\,\Omega} = 100$

$Z_{base,II} = 9\,\Omega$

$R_{c,pu,II} = \frac{144\,\Omega}{9\,\Omega} = 16$

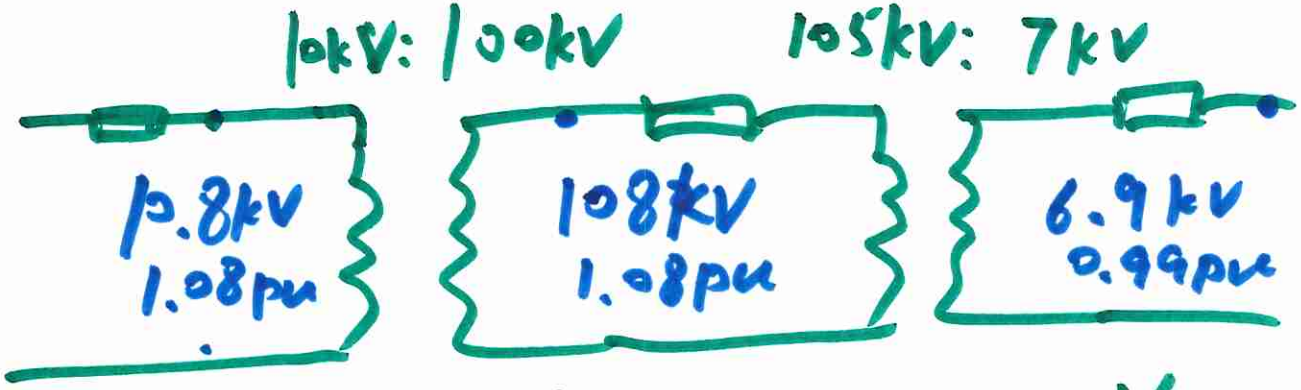
$V_b$, $I_b$, $S_b$, $Z_b$

$V_b$, $I_b$, $\Rightarrow S_b = V_b I_b$

$$Z_b = \frac{V_b}{I_b}$$

$S_b = 100\ MVA$

$V_b, S_b \Rightarrow I_b = \frac{S_b}{V_b}$




$$Z_b = \frac{V_b}{I_b} = \frac{V_b^2}{S_b}$$

$V_{bI} = 10kV$

$V_{bII} = V_{bI} \frac{100k}{10k}$

$V_{bIII} = V_{bI} \frac{100k}{10k} \cdot \frac{7k}{105k}$

$$Z_{bI} = \frac{V_{bI}^2}{S_b}$$

$$Z_{bII} = \frac{V_{bII}^2}{S_b}$$

$$Z_{bIII} = \frac{V_{bIII}^2}{S_b}$$