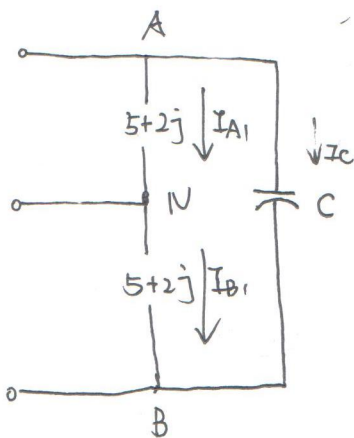


9.23



17.

$$I_{A1} = I_{B1} = \frac{220}{5 + j2} = \frac{110}{29} - \frac{440}{29}j \text{ A}$$

$$I_C = \frac{440}{-X_C j} = \frac{440}{X_C} j$$

Because it is a unity-power-factor load

$$\frac{440}{X_C} = \frac{440}{29} \quad X_C = \frac{1}{\omega C} = \frac{1}{2\pi f C} = 29$$

$$C = \frac{1}{29 \times 2\pi \times 60} = 91.5 \mu\text{F}$$

$$Q = U_{AB} I_C = 440 \times \frac{440}{29} = 6.676 \text{ kVA}$$