$$I = 8 e^{-j \frac{5\pi}{6}}$$

$$V = 5 e^{-j \frac{\pi}{3}}$$

$$P = \frac{1}{2} \cdot I_m \cdot V_m \cos(\theta_v - \theta_i)$$

$$= \frac{1}{2} \cdot 8 \cdot 5 \cdot \cos\left(-\frac{\pi}{3} + \frac{5\pi}{6}\right)$$

$$= \frac{1}{2} \cdot 8 \cdot 5 \cdot \cos\left(\frac{\pi}{2}\right)$$

$$= \frac{1}{2} \cdot 8 \cdot 5 \cdot 0$$

$$\boxed{P = 0 \ W}$$

$\leadsto$ AS EXPECTED SINCE
V & I ARE ORTHOGONAL

IN THIS CASE, "I LAGS V"
BY 90° $\Rightarrow$ THE ELEMENT
IS AN INDUCTOR

$$I = \frac{V}{j\omega L} = \frac{V}{\omega L} e^{-j \frac{\pi}{2}}$$