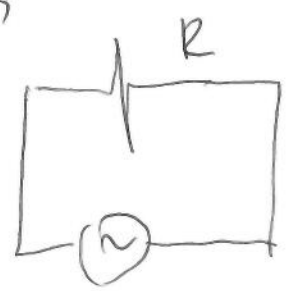
R-цепь

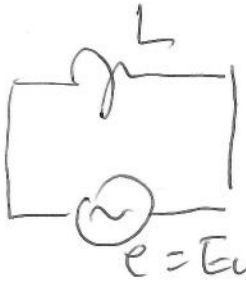


$$i(t) = \frac{e(t)}{R} = \frac{E_m}{R}\sin\omega t$$

$e = E_m \sin\omega t$

$\bar{E} = E$

$$\bar{I} = \frac{\bar{E}}{R}$$

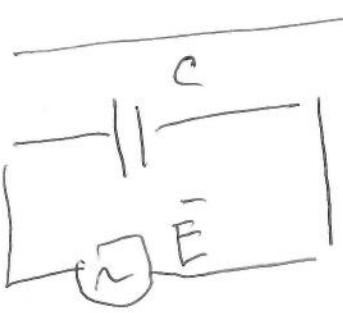


$L \rightarrow j\omega L$

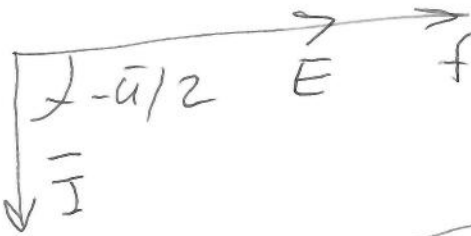
$L \cdot \omega = X_L$

$$\bar{I} = \frac{\bar{E}}{j\omega L} = \frac{E}{+j\omega L}\,\frac{-j\omega L}{-j\omega L} = \frac{-j\omega L E}{\omega^2 L^2}$$

$$= -j\frac{E}{\omega L} = \frac{E}{\omega L}\,e^{-j\pi/2}$$



$$-j = e^{-j\pi/2}$$



$$\bar{I} = \frac{\bar{E}}{\frac{-j}{\omega C}} = \frac{E\omega C}{-j}\,\frac{-j}{j}$$

$$= j E\omega C = E\omega C e^{j\pi/2}$$