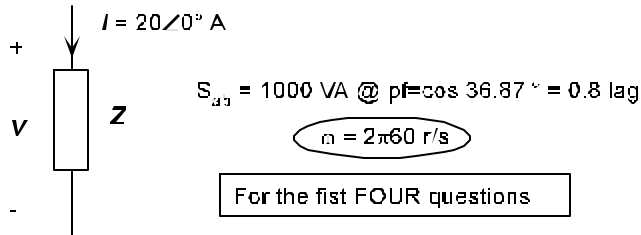


Mark **each** True/False as either **T** or **F**. (1pt each)



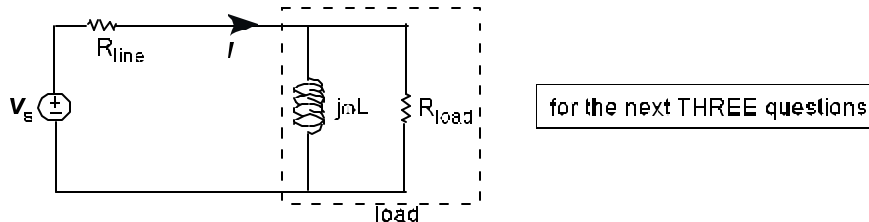
___ $S_{ab} = (800+j600) \text{ VA} = 1000\angle 36.87^\circ \text{ VA}$.

___ The energy absorbed by Z in three complete cycles of $v(t)$ is 40J.

___ $v(t) = 50\sqrt{2} \cos(2\pi 60t - 36.87^\circ) \text{ V}$

Why or why not? _____

___ $Z = (2 - j1.5) \Omega$.

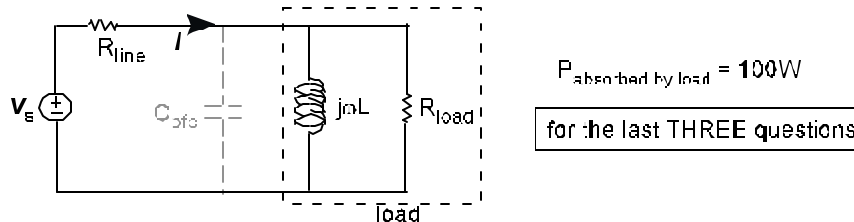


___ As L increases, the power absorbed by R_{line} will decrease.

Why or why not? _____

___ As L increases, the reactive power absorbed by the load will increase.

___ Given R_{line} and R_{load} , η will be the maximum possible when $L=0$.



___ The required C_{pfc} , in Farads, increases as the inductance, in Henries, increases.

Why or why not? _____

___ As the load pf is increased toward 1, $|V|$ will decrease which will increase the %VR.

___ Decreasing R_{line} will allow a smaller C_{pfc} to be used to achieve a given % η and %VR.