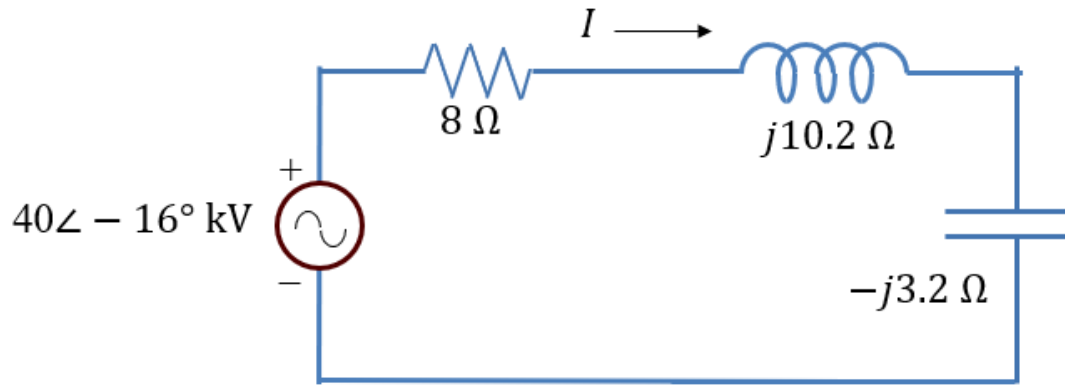


Name: _____ UIN: _____ Score: _____



In the circuit above, find

1. The current phasor I , and

$$I = \frac{V}{Z} = \frac{40\angle -16^\circ \text{ kV}}{8 + j10.2 - j3.2 \Omega} = 3.76\angle -57.2^\circ \text{ kA}$$

2. The power factor at the source.

$$S = VI^* = (40\angle -16^\circ \text{ kV})(3.76\angle -57.2^\circ \text{ kA})^* = 150.5\angle 41.2^\circ \text{ MVA}$$
$$p.f. = \cos(41.2^\circ) = 0.753 \text{ lagging}$$