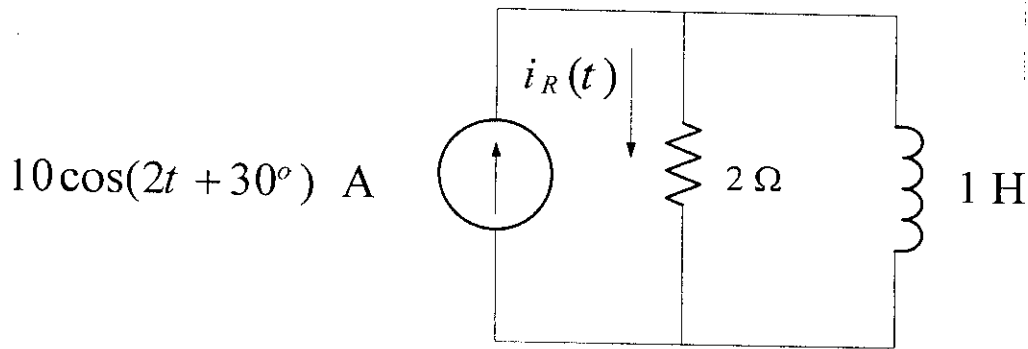
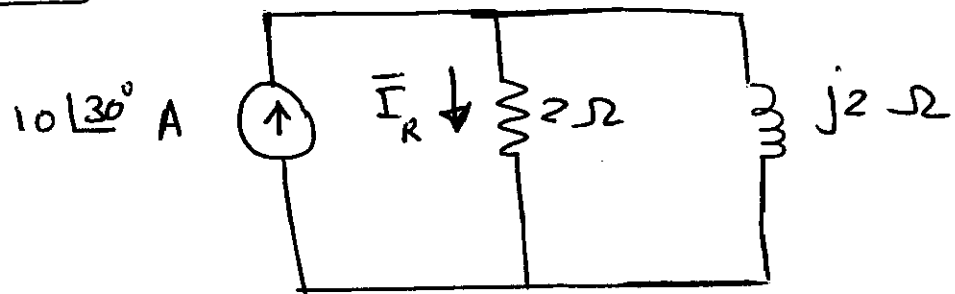


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For the Circuit shown above Find the current  $i_R(t)$  ?

phasor domain



$$\bar{I}_R = \frac{j2}{2 + j2} 10 \angle 30^\circ$$

$$= \frac{2 \angle 90^\circ}{2\sqrt{2} \angle 45^\circ} 10 \angle 30^\circ = \frac{10}{\sqrt{2}} \angle 90^\circ + 30^\circ - 45^\circ$$

$$= \frac{10}{\sqrt{2}} \angle 75^\circ \text{ A}$$

$$\Rightarrow i_R(t) = \frac{10}{\sqrt{2}} \cos(2t + 75^\circ) \text{ A}$$