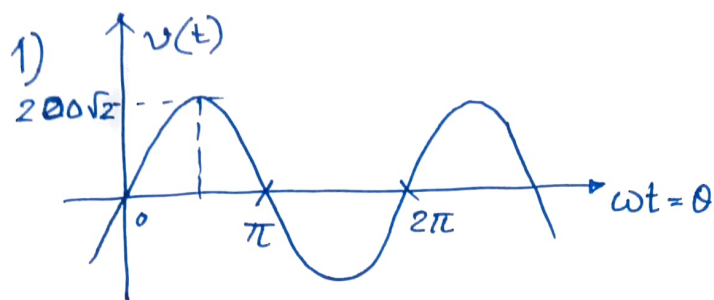


# Revision : AC Fundamentals.



$$I_m = ?$$

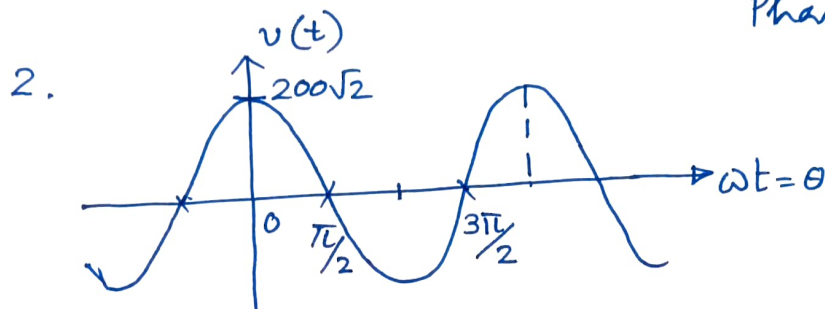
$$v(t) = ?$$

$$f = ?$$

$$T = ?$$

$$\omega = ?$$

$$\text{Phasor form} = ?$$



$$I_m = ?$$

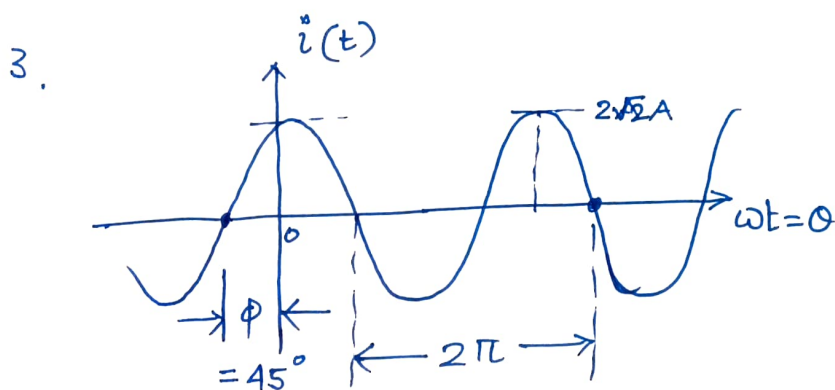
$$v(t) = ? \begin{cases} \rightarrow \text{sine} \\ \rightarrow \text{cosine} \end{cases}$$

$$f = ?$$

$$T = ?$$

$$\omega = ?$$

$$\text{Phasor form} = ?$$



$$I_m = ?$$

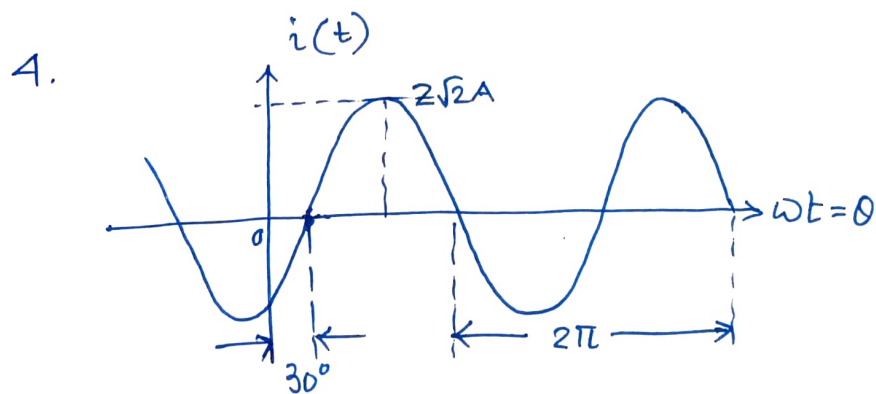
$$i(t) = ?$$

$$f = ?$$

$$T = ?$$

$$\omega = ?$$

$$\text{Phasor form} = ?$$



$$I_m = ?$$

$$i(t) = ?$$

$$f = ?$$

$$T = ?$$

$$\omega = ?$$

$$\text{Phasor form} = ?$$

5. In a circuit voltage and current are as follows:

$$v(t) = 200\sqrt{2} \sin(314t - 30^\circ) \text{ V}$$

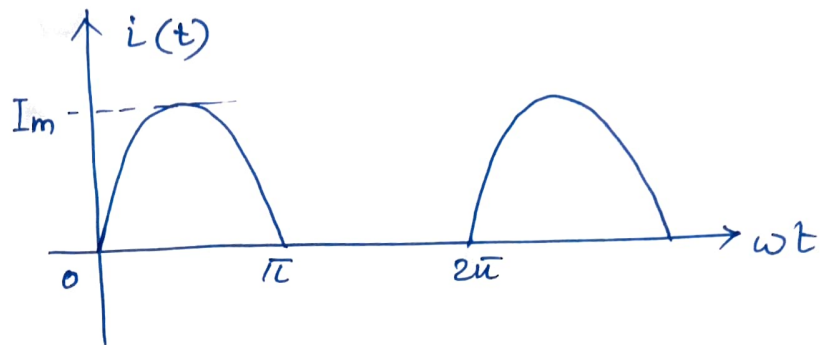
$$i(t) = 2\sqrt{2} \sin(314t + 60^\circ) \text{ A}$$

Find phase difference? Is  $i(t)$  leading voltage?

6. If  $e^{\pm j\theta} = \cos\theta \pm j\sin\theta$   
 what is  $\cos\theta$  and  $\sin\theta$  in terms of  $e^{\pm j\theta}$ ?

7.

Find  $I_{avg}$   
 and  $I_{rms}$ .



and then FF and  
 PF.

8.  $\bar{Z}_1 = 3 + j4$ ,  $\bar{Z}_2 = 5 + j12$   
 Find  $\bar{Z}_1 + \bar{Z}_2$ ,  $\bar{Z}_1 - \bar{Z}_2$ ,  $\bar{Z}_1 \bar{Z}_2$ ,  $\frac{\bar{Z}_1}{\bar{Z}_2}$

9. Add the following voltages:

$$v_1(t) = 100\sqrt{2} \cos(314t - 30^\circ)$$

$$v_2(t) = 200\sqrt{2} \cos(314t - 60^\circ)$$

$$v_3(t) = 150\sqrt{2} \cos(314t + 60^\circ)$$