

Generation of AC signal

$$v = 10 \sin \omega t$$

$$v = 10 \sin (\omega t + 0^\circ)$$

Start $\rightarrow 0$

$$\text{Max} \rightarrow 90^\circ \times \frac{\pi}{180^\circ} = \frac{\pi}{2}$$

$$\text{Cross} \rightarrow 180^\circ \times \frac{\pi}{180^\circ} = \pi$$

$$\text{Min} \rightarrow 270^\circ \times \frac{\pi}{180^\circ} = \frac{3\pi}{2}$$

$$\text{End} \rightarrow 360^\circ \times \frac{\pi}{180^\circ} = 2\pi$$

$$p = 25 \sin 2\omega t$$

$$p = 25 \sin (2\omega t + 0^\circ)$$

* $2\omega t \rightarrow 2$ cycles within 2π

Start $\rightarrow 0$

$$\text{Max} \rightarrow 45^\circ \times \frac{\pi}{180^\circ} = \frac{\pi}{4}$$

$$\text{Cross} \rightarrow 90^\circ \times \frac{\pi}{180^\circ} = \frac{\pi}{2}$$

$$\text{Min} \rightarrow 135^\circ \times \frac{\pi}{180^\circ} = \frac{3\pi}{4}$$

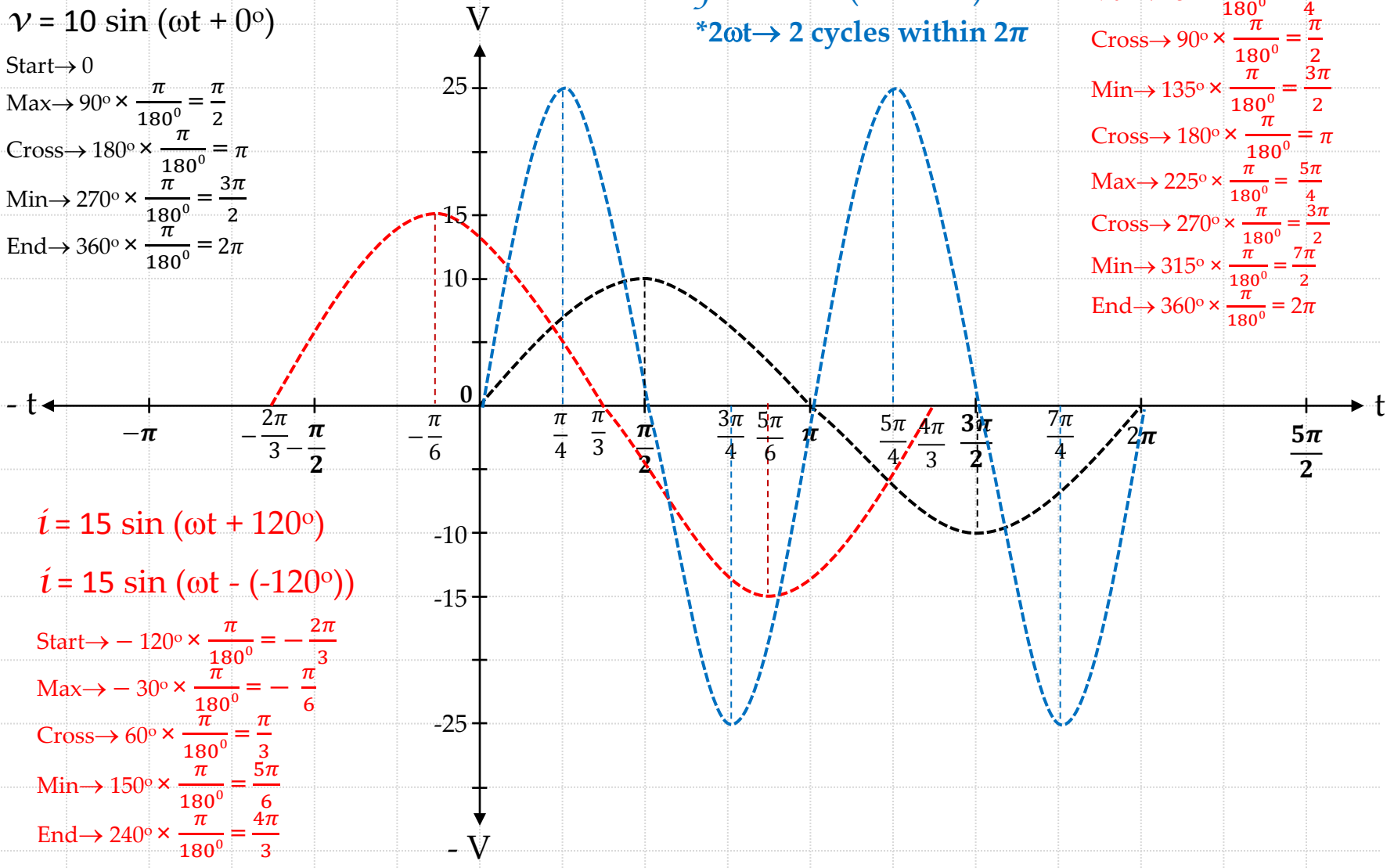
$$\text{Cross} \rightarrow 180^\circ \times \frac{\pi}{180^\circ} = \pi$$

$$\text{Max} \rightarrow 225^\circ \times \frac{\pi}{180^\circ} = \frac{5\pi}{4}$$

$$\text{Cross} \rightarrow 270^\circ \times \frac{\pi}{180^\circ} = \frac{3\pi}{2}$$

$$\text{Min} \rightarrow 315^\circ \times \frac{\pi}{180^\circ} = \frac{7\pi}{4}$$

$$\text{End} \rightarrow 360^\circ \times \frac{\pi}{180^\circ} = 2\pi$$



$$i = 15 \sin (\omega t + 120^\circ)$$

$$i = 15 \sin (\omega t - (-120^\circ))$$

$$\text{Start} \rightarrow -120^\circ \times \frac{\pi}{180^\circ} = -\frac{2\pi}{3}$$

$$\text{Max} \rightarrow -30^\circ \times \frac{\pi}{180^\circ} = -\frac{\pi}{6}$$

$$\text{Cross} \rightarrow 60^\circ \times \frac{\pi}{180^\circ} = \frac{\pi}{3}$$

$$\text{Min} \rightarrow 150^\circ \times \frac{\pi}{180^\circ} = \frac{5\pi}{6}$$

$$\text{End} \rightarrow 240^\circ \times \frac{\pi}{180^\circ} = \frac{4\pi}{3}$$