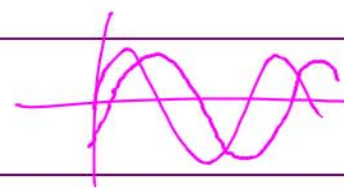


$$k = 4\pi$$

$$\lambda = \frac{2\pi}{k} = \frac{1}{2} \text{ m}$$

$$y_{res} = y_1 + y_2$$

$$= 2y_1 = 2y_2$$

$$y_1 = y_m \sin(kx - \omega t)$$
$$y_2 = y_m \sin(kx - \omega t + \phi)$$

$$y_{res} = y_1 + y_2 = 2y_m \cos\left(\frac{\phi}{2}\right) \sin(kx - \omega t + \frac{\phi}{2})$$

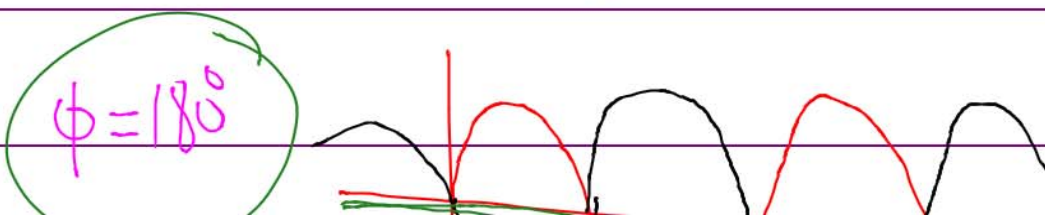
$$\phi = 0 \quad y_{res} = 2y_m(1) \sin(kx - \omega t) = 2y_1$$

$$\phi = \frac{\pi}{3} = 60^\circ \quad y_{res} = 2y_m \left(\frac{\sqrt{3}}{2} \right) \sin(kx - \omega t + \frac{\pi}{6})$$

$\frac{1.73y_m}{2}$

$\frac{\pi}{6} = 30^\circ$

$$\phi = 180^\circ \quad y_{res} = 2y_m \frac{1}{2} \sin(kx - \omega t + 60^\circ)$$
$$= y_m \sin(kx - \omega t + 60^\circ)$$



$$2y_m \cos(\tau_0) \sin(\dots) = 0$$

$$\sin(kx - \omega t + \phi)$$

2π

Phase angle

Phase

$$k\lambda = \frac{2\pi}{\lambda} \lambda$$

$$x \rightarrow x + \lambda$$

$$t \rightarrow t + T$$

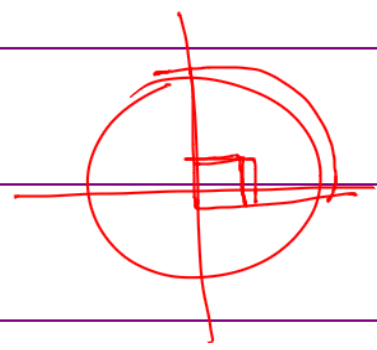
$$\omega T = \frac{2\pi}{T} * T = 2\pi$$

$$\phi = \pi/2$$

$$\phi \rightarrow \phi + 2\pi$$

$$\frac{\lambda}{4} = \frac{\phi}{2\pi}$$

$$\frac{\pi}{2} = \frac{2\pi}{4} = \phi$$



$$\frac{t}{T} = \frac{\phi}{2\pi}$$

$$\frac{x}{\lambda} = \frac{\phi}{2\pi}$$