

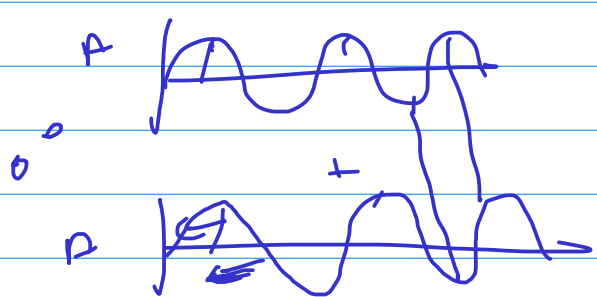
$n \geq 1$
 $n = 1, 2, 3$
 $\delta \geq 3\lambda/2$
 $n = 1, 2, 3$

$\delta = n\lambda L$
 $\delta = n\lambda L$

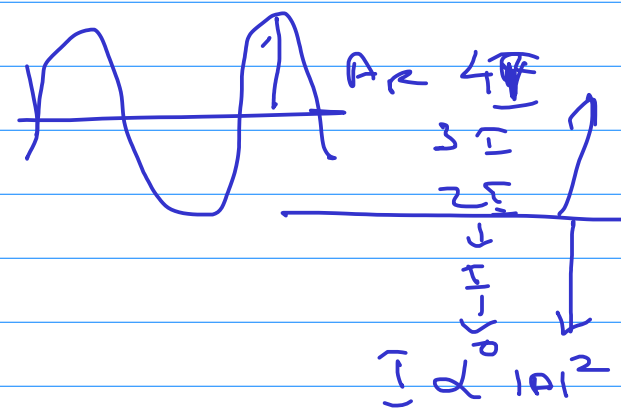
Wave vector
 k

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

$\delta = n\lambda L$
 $\delta = \frac{n 2\pi L}{\lambda}$



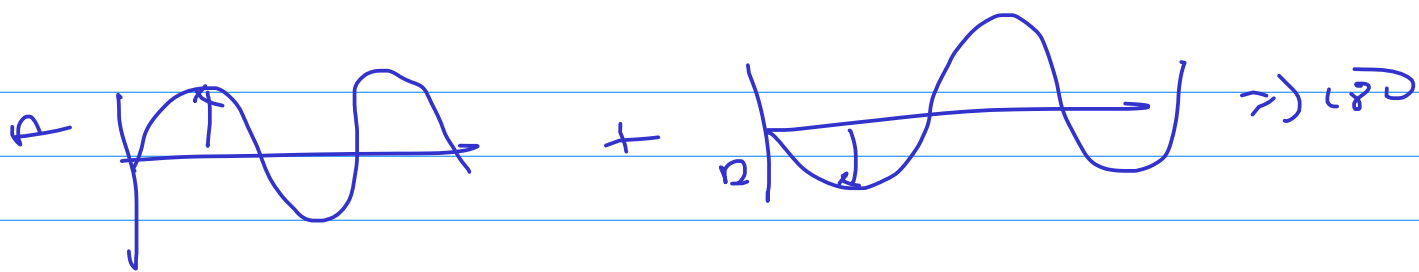
$I = I$
 $I = 2I$



$A_R = A + B = (2A)$

$I_R = 2^2 A^2 = 4I$

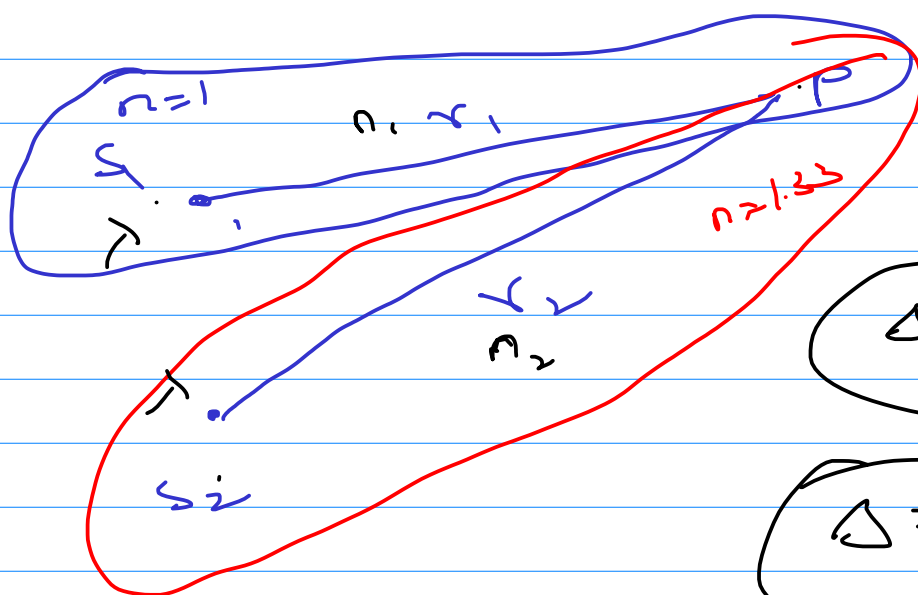
$I_R > I + I$



$$P_R = A - A = 0$$

$$I_R = (0)^2 = 0$$

$$I_R < 2I$$



$$\Delta = \vec{r}_2 - \vec{r}_1$$

$$\Delta = m\lambda$$

$$\Delta = (2m+1)\lambda/2$$

$$E_A = E_1 \sin \omega t$$

$$E_B = E_2 \sin(\omega t + \delta)$$

$$E_R = E_A + E_B = E_1 \sin \omega t + E_2 \sin(\omega t + \delta)$$

$$= E_1 \sin \omega t + E_2 (\sin \omega t \cos \delta + \cos \omega t \sin \delta)$$

$$= (E_1 + E_2 \cos \delta) \sin \omega t + E_2 \cos \omega t \sin \delta$$

$$E_1 + E_2 \cos \delta = E \cos \phi; \quad E_2 \sin \delta = E \sin \phi$$

$$(1)^2 + (2)^2 \Rightarrow$$

$$(E_1 + E_2 \cos \delta)^2 + (E_2 \sin \delta)^2 = E^2 (\cos^2 \phi + \sin^2 \phi)$$

$$E^2 = E_1^2 + E_2^2 \cos^2 \delta + 2E_1 E_2 \cos \delta + E_2^2 \sin^2 \delta$$

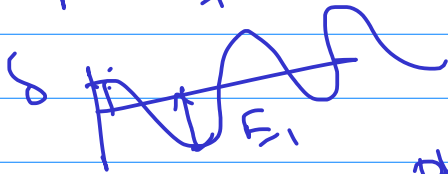
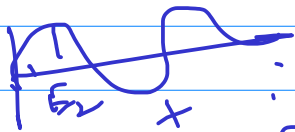
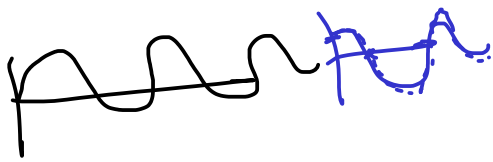
$$= E_1^2 + E_2^2 + 2E_1 E_2 \cos \delta$$

$$I_R = I_1 + I_2 + 2\sqrt{I_1 I_2} \cos \delta$$

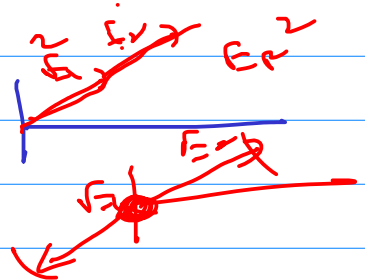
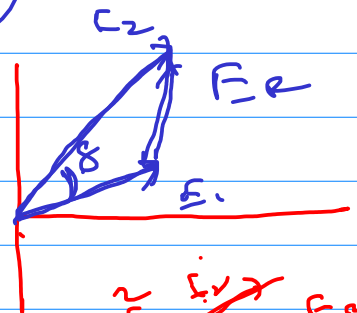
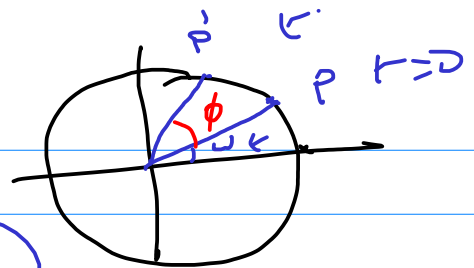
$$I_1 + I_2$$

$$I_1 + I_2$$

$$I_R > I_1 + I_2$$



phasor diagram



$$E^2 = E_1^2 + E_2^2 + 2E_1E_2 \cos \delta$$