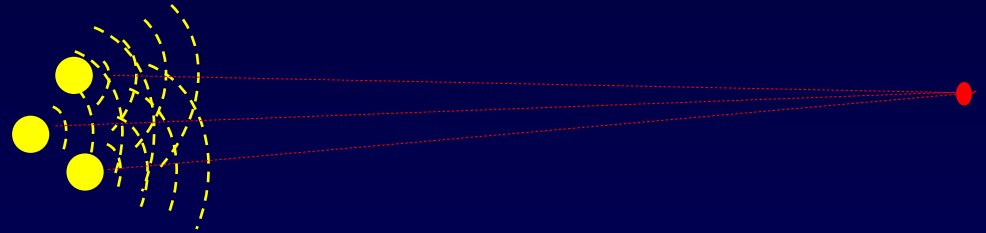


Act 4: Multiple sources

Consider light now coming from *three* openings, arranged in an equilateral triangle.

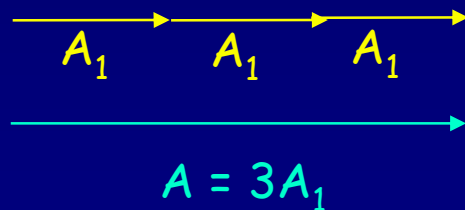


At given distance far from the openings, the light from each independently has intensity I_1 . What is the total intensity when all three openings are open?

a. $3I_1$

b. $9I_1$

c. cannot be determined



$$\text{Therefore, } I_{\text{tot}} = A^2 = (3 A_1)^2 = 9 I_1$$

$$\text{In general, } I_{\text{tot}} = A^2 = (N A_1)^2 = N^2 I_1$$