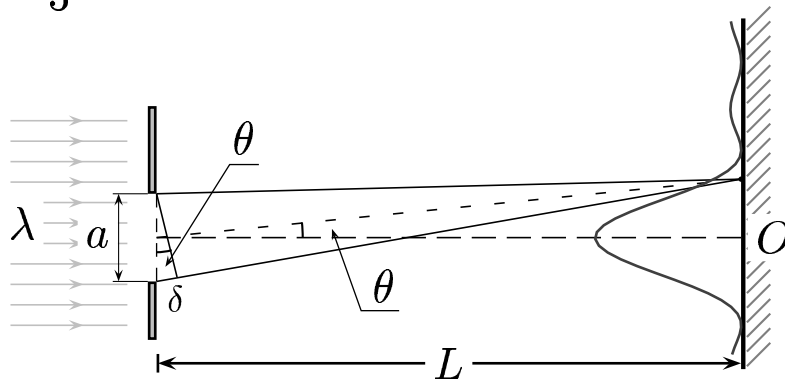


Given  $\delta = \frac{\lambda}{3}$ .



Estimate  $\frac{I}{I_0}$ .

- A)  $\frac{I}{I_0} \approx 1.$
- B)  $\frac{I}{I_0} \approx \frac{3}{4}.$
- C)  $\frac{I}{I_0} \approx \frac{1}{2}.$
- D)  $\frac{I}{I_0} \approx \frac{1}{3}.$

$$\frac{I(\beta)}{I(0^\circ)} = \frac{\sin^2\left(\frac{\beta}{2}\right)}{\left(\frac{\beta}{2}\right)^2}, \quad \beta = k \delta.$$

$$\text{For } \delta = \frac{\lambda}{3}, \quad \beta = \frac{2\pi}{3}.$$

$$\frac{I(\beta)}{I(0^\circ)} = \frac{\sin^2\left(\frac{\beta}{2}\right)}{\left(\frac{\beta}{2}\right)^2} = \frac{\left(\frac{\sqrt{3}}{2}\right)^2}{\left(\frac{\pi}{3}\right)^2} \approx \frac{3}{4}.$$

Answer **B**.

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