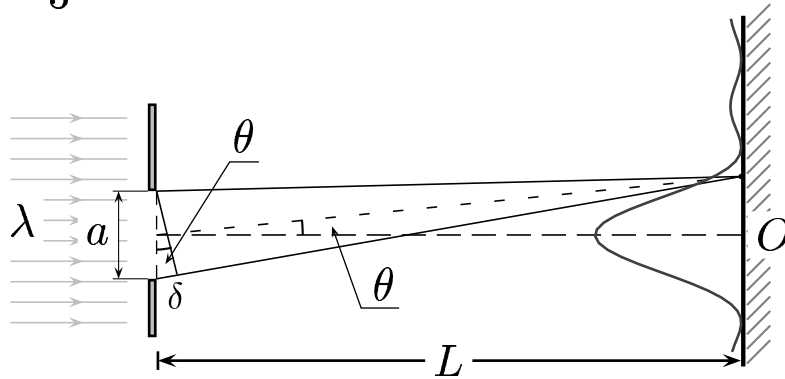


Given  $\delta = \frac{\lambda}{3}$ .



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)  $\frac{I}{I_0} \approx \frac{1}{3}$ .

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

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

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

Answer **B**.