

Ch 3 Prob 21

$$d = 2.00 \mu\text{m}$$

$$m = 3$$

$$\theta = 60.0^\circ$$

Find the wavelength.

Use the double-slit formula

$$m\lambda = d \sin \theta$$

solve for λ

$$\lambda = \frac{d \sin \theta}{m} = \frac{(2.0 \times 10^{-6} \text{ m}) \sin(60)}{3}$$

$$= 5.77 \times 10^{-7} \text{ m}$$

$$\boxed{577 \text{ nm}}$$