

84. We infer from Sample Problem 36-2, that (with angle in radians)

$$\Delta\theta = \frac{\lambda}{d}$$

for adjacent fringes. With the wavelength change ($\lambda' = \lambda/n$ by Eq. 36-8), this equation becomes

$$\Delta\theta' = \frac{\lambda'}{d} \quad .$$

Dividing one equation by the other, the requirement of *radians* can now be relaxed and we obtain

$$\frac{\Delta\theta'}{\Delta\theta} = \frac{\lambda'}{\lambda} = \frac{1}{n} \quad .$$

Therefore, with $n = 1.33$ and $\Delta\theta = 0.30^\circ$, we find $\Delta\theta' = 0.23^\circ$.