



reflection  
constructive for red

$$\pi + \frac{(2d)n(2\pi)}{\lambda} = 0, 2\pi, 4\pi, 6\pi$$

$$\frac{4dn\pi}{\lambda} = \pi \quad \frac{4dn\pi}{\lambda} = 3\pi \quad \frac{4dn\pi}{\lambda} = 5\pi$$

$$d = \frac{\lambda}{4n}$$

$$d = \frac{3\lambda}{4n}$$

$$d = \frac{5\lambda}{4n}$$

$$\frac{(660)}{4(1.47)}$$

$$\frac{(3)(660)}{4(1.47)}$$

$$\frac{(5)(660)}{4(1.47)}$$

$$112.2 \text{ nm}$$

$$336.7 \text{ nm}$$

$$561.2 \text{ nm}$$

middle

$$\pi + \frac{(2d)n(2\pi)}{\lambda} = \pi, 3\pi, 5\pi, \dots \quad \text{destru}$$

$$\frac{4dn}{\lambda} = 2, \quad \frac{4dn}{\lambda} = 4$$

$$\lambda = \frac{4dn}{2} = 990 \text{ nm} \quad \lambda = \frac{4dn}{4} = \underline{\underline{495 \text{ nm}}} \quad \lambda = \frac{4dn}{6} = 330 \text{ nm}$$

visible