Interferencia Ondas de Luz

Problema 1

1)
$$y_b = \frac{\lambda L}{d} m \quad ; \quad y_{osc} = \frac{\lambda L}{d}\left(m+\frac{1}{2}\right)$$
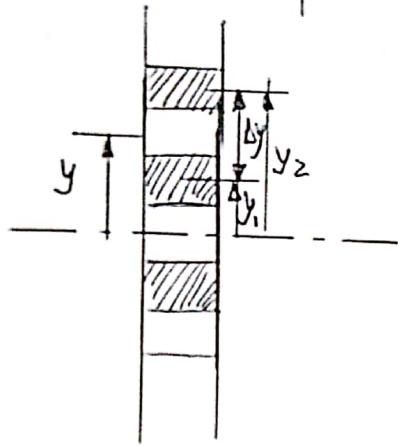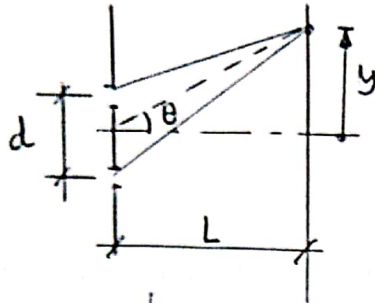
$d = 0,25 \, mm$

$\lambda = 546,1 \, nm$

$L = 1,2 \, m$

a) $y = ?$ a la 1ra región brillante

b) $\Delta y = ?$ Distancia entre la 1ra y 2° banda oscura

a) $y = \frac{\lambda L}{d} m \qquad con \quad m = 1$

$$y = \frac{\lambda L}{d} = \frac{546,1 \times 10^{-9} \times 1,2}{0,25 \times 10^{-3}}$$

$$y = 2,62 \times 10^{-3} \, (m)$$

b) $\Delta y = y_2 - y_1 \qquad con \quad y = \frac{\lambda L}{d}\left(m+\frac{1}{2}\right) \quad m = 0,1,2,---.$

$$\Delta y = y_2 - y_1 = \frac{\lambda L}{d}\left(1+\frac{1}{2}\right) - \frac{\lambda L}{d}\left(0+\frac{1}{2}\right)$$

$$\boxed{\Delta y = \frac{\lambda L}{d}} = 2,62 \times 10^{-3} \, m$$

interfranja.