36. 2

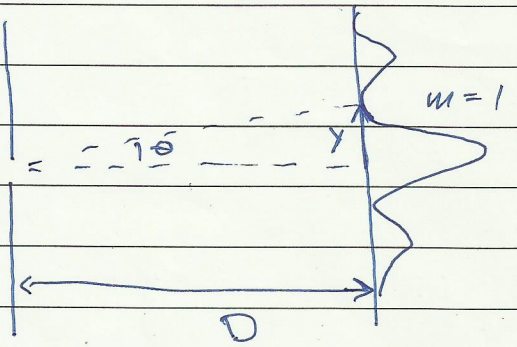
Datos

$\lambda = 546 \cdot 10^{-9}\ m$

$D = 60 \cdot 10^{-2}\ m$

$y = 10.2 \cdot 10^{-3}\ m$

a - ?



Para uma abertura $a \operatorname{sen}\theta = m\lambda$

$$a = \frac{m\lambda}{\operatorname{sen}\theta}$$

Para calcular θ utilizamos:

$$\tan\theta = \frac{y}{D} = \frac{10.2 \cdot 10^{-3}}{60 \cdot 10^{-2}} = 0.17 \cdot 10^{-2}$$

$\tan\theta = 0.17 \cdot 10^{-2}$; considerando que $\tan\theta \approx \operatorname{sen}\theta$

$$a = \frac{m\lambda}{\tan\theta} = \frac{(1)(546 \cdot 10^{-9})}{0.17 \cdot 10^{-2}} = 3211.7 \cdot 10^{-8}\ m$$