

36.5.

Done

$$A = 5 \text{ cm} = 0,05 \text{ m}$$

$$x = \frac{7}{12} \lambda$$

$$\varphi_0 = 0$$

$$y = ?$$

$$y(x,t) = A \sin \left(\omega \left(t - \frac{x}{v} \right) + \varphi_0 \right)$$

$$\omega = \frac{2\pi}{T}$$

$$v = \frac{\lambda}{T}$$

$$y = A \sin \left(\frac{2\pi}{T} \left(t - \frac{x}{v} \right) + \varphi_0 \right)$$

$$y = A \sin \left(\frac{2\pi}{T} \left(t - \frac{xT}{\lambda} \right) + \varphi_0 \right)$$

$$y = A \sin \left(\frac{2\pi}{T} \left(0,75 T - \frac{7}{12} \frac{T}{\lambda} \right) + 0 \right)$$

$$y = A \sin \left(\frac{2\pi}{T} \left(\frac{3}{4} T - \frac{7}{12} T \right) \right)$$

$$y = A \sin \left(\frac{2\pi}{T} \cdot \frac{2}{12} T \right)$$

$$y = A \frac{\sin \pi}{3} \Rightarrow y = 0,05 \text{ m} \cdot \frac{\sin \pi}{3}$$

$$= 0,05 \text{ m} \cdot \frac{\sqrt{3}}{2} = 2,5 \sqrt{3} \text{ cm}$$

40.5.

$$I_1 = 10^{-12} \frac{W}{m^2}$$

$$I_2 = 10^{-7}$$

$$\Delta I = ?$$

$$I = \log$$

$$I_1 = \log$$

$$I = \Delta I$$

$$\Delta I =$$

$$= \log$$

$$\Delta I =$$

$$10^{\Delta}$$