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1.) $Y = 8 \cos \pi (2t - 0.8z) \rightarrow Y = A \cos \left(\frac{2\pi}{T} t \pm \frac{2\pi}{\lambda} z \right)$

$Y \rightarrow mm ; z = N \rightarrow 5$

a. Amplitudo $\rightarrow A = 8\ mm$

b. Wavelength $\rightarrow \frac{2\pi}{\lambda} = 0.8\pi$

$$\lambda = \frac{2}{0.8}$$

$$\lambda = 2,5$$

c. Frekuensi $\rightarrow \frac{2\pi}{T} = 2\pi$

$$S = 1\ Hz$$

d. $\Delta \varphi = \frac{z}{\lambda} = \frac{N}{\lambda} = \frac{5}{2.5} = 2$

2. $P = 1 \mu W$

$\lambda = 0.85 \mu m$

$\frac{n}{S} = \cdots ?$

$P = \frac{E}{S} = \frac{nhf}{S}$

$\frac{E}{S} = \frac{n}{S} \cdot \frac{hc}{\lambda}$

$1 \times 10^{-6} = \frac{n}{S} \cdot \frac{6.63 \times 10^{-34} \cdot 3 \times 10^{8}}{0.85 \times 10^{-6}}$

$\frac{n}{S} = 4,27 \times 10^{12}$ photon/s