olem 2:

particle moving along the $x-$axis is in a stationary state characterized
ne wave function

$$\psi(x) = \begin{cases} 0 & x < -a \\ A\left(1 + \cos\frac{\pi x}{a}\right) & -a < x < a \\ 0 & x > a \end{cases}$$

a)Sketch $\psi(x)$.
b) Is this wave function physically acceptable? Explain why.
c) Calculate A so that $\psi(x)$ is normalized.
d) Evaluate $< x >$, $< p >$, Δx, Δp.