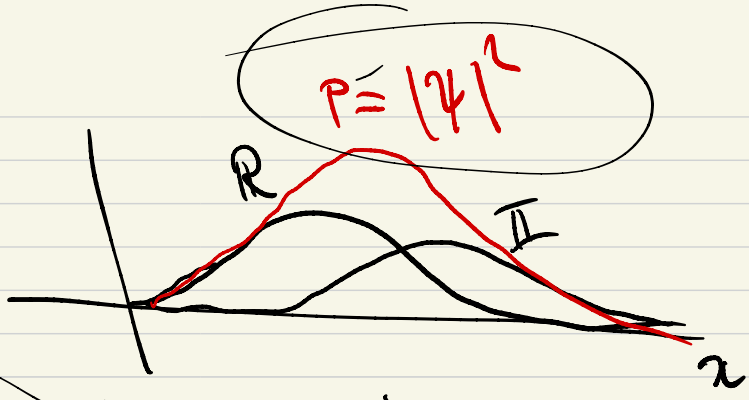
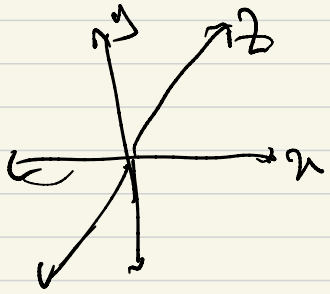
ψ wave function.

$\Psi(x,y,z,t)$

· complex function



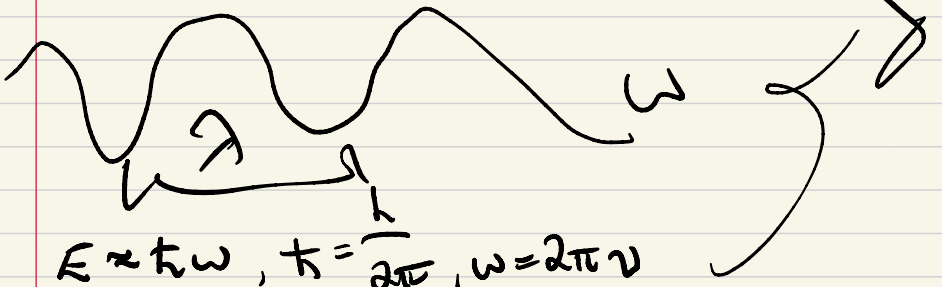
$(\psi = R + I)$



State of Quantum System. (not w/ certainty)

· Gives probabilities.

$[\hat{x}, \hat{p}] = i\hbar$ $\quad \frac{d\hat{Q}}{dt} = \frac{1}{i\hbar}[\hat{Q}, \hat{H}]$



$E = \hbar\omega, \ \hbar = \frac{h}{2\pi}, \ \omega = 2\pi\nu$

$\simeq h\nu$

$p = \hbar k = \frac{h}{\lambda}, \ k = \frac{2\pi}{\lambda}$ (wave #)

$E \sim \hbar\omega$

$p = \hbar k$

deBroglie Relations

Real World $\quad \Delta x \cdot \Delta p \geq \hbar$

"The state of a quantum object is completely specified by a wavefunction $\Psi(x)$ (a function)"