

Introduction

1. Review syllabus.
2. Schrodinger Eq. (1D)

$$i\hbar \frac{\partial \psi}{\partial t} = -\frac{\hbar^2}{2m} \frac{\partial^2 \psi}{\partial x^2} + V\psi$$

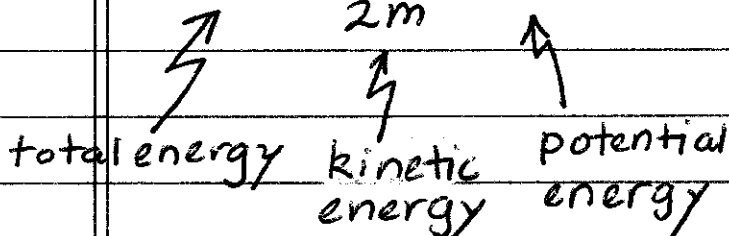
Example: ($V = \text{const.}$)

$$\psi \propto e^{ikx - i\omega t}$$

$$i\hbar \frac{\partial \psi}{\partial t} = \hbar\omega \psi$$

$$-\frac{\hbar^2}{2m} \frac{\partial^2 \psi}{\partial x^2} = \frac{\hbar^2 k^2}{2m} \psi = \frac{p^2}{2m} \psi$$

$$\rightarrow \hbar\omega = \frac{p^2}{2m} + V$$



 total energy kinetic energy potential energy

3. Probabilistic interpretation:

Probability finding particle between $a \leq x \leq b$ at t = $\int_a^b |\psi(x,t)|^2 dx$

4. Where was the particle just before a position measurement was made finding the particle at $x=c$?

Read discussion in book.