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=const.)

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

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

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

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

$\hbar\omega$: total energy; $\frac{p^2}{2m}$: kinetic energy; V: 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 <u>just before</u> a position measurement was made finding the particle at $x = c$?

Read discussion in book.