

## Quiz #1

Sept. 7, 2015

Quantum Mechanics

Prof. Woo-Young Choi

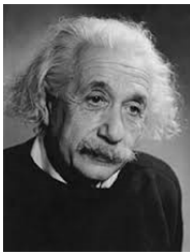
Dept. of Electrical and Electronic Engineering

Yonsei University

### Prob. 1

Each of following famous scientists made great contributions to the development of quantum mechanics. Identify each person and give a one-sentence explanation for the major contribution of each person.

(a)



(b)



(c)



### Prob. 2

According to Plank, the intensity spectrum of the blackbody radiation is given as

$$\frac{8\pi\nu^2}{c^3} \frac{h\nu}{e^{kT} - 1}$$

Show that when the frequency is very small the above expression approaches the classical expression in which the intensity is proportional to  $\nu^2$ .

### Prob. 3

De Broglie postulated that every matter has the wave property. How can one determine the matter wavelength?