

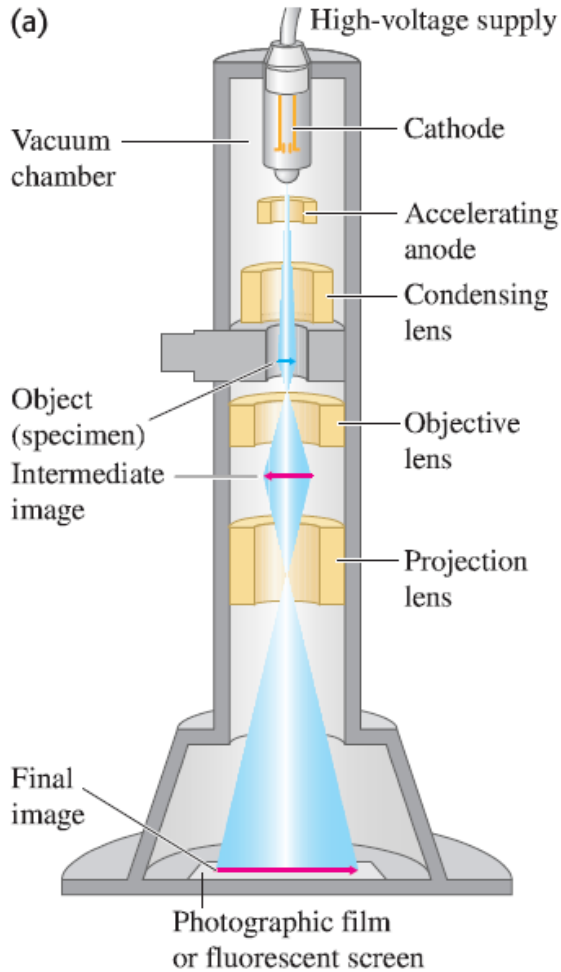
Imagine a particle in a one-dimensional box. Is it possible that this particle could be in a state that has exactly zero kinetic energy?

a) No.

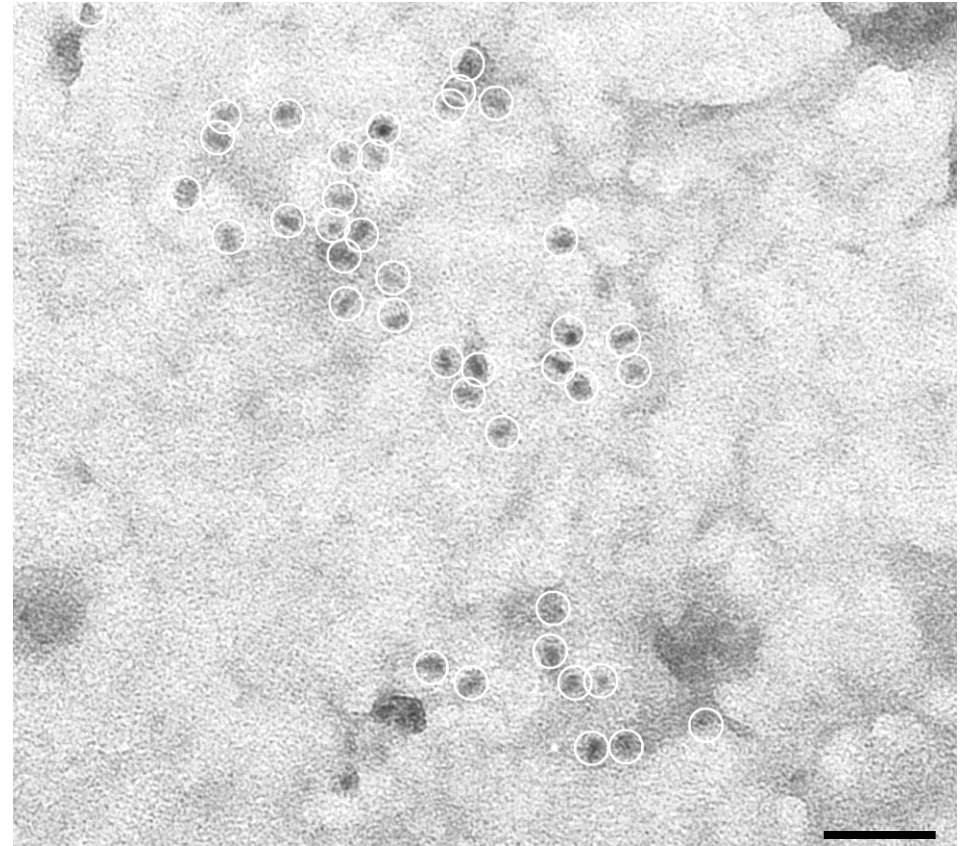
b) Yes, of course.

c) I think this might be a trick question and I'm not sure.

39.10 (a) Schematic diagram of a transmission electron microscope (TEM).
(b) This TEM image shows a skin cell in the process of dividing into two daughter cells. False color has been used to show the genetic material (dark green).



QD-IgE



Bar is 100 nm

For a free particle with momentum p , the wave is a function is

$$\psi(x) = A e^{ikx} e^{-i\omega t}$$

Where is the particle most likely to be found?

- a) $x=0$
- b) It depends on t
- c) Can't be calculated with just the above information.
- d) Is equally likely to be found anywhere