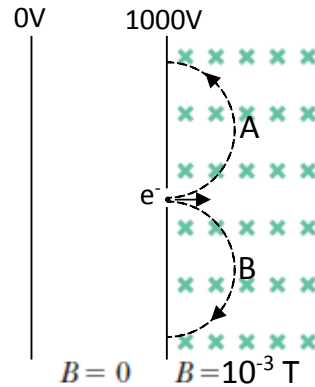PHY 232 Summer 2016 Class Work

Class 25. Magnetic Force on Moving Charge and Current

An electron of charge -1.602×10^{-19} C and mass 9.109×10^{-31} kg accelerated through a potential difference of 1000V before entering a region of uniform magnetic field of 10^{-3} T as shown in the figure.

(a) What is the speed of the electron before entering the uniform magnetic field region?

(b) Along which path will the electron move, A or B?

(c) What is the radius of the semicircular path?

(d) It will take how long for the electron to complete the semicircular path?