Speed of the hydrogen electron

1. Coulomb’s law is given below. Express the SI unit of the Coulomb’s constant.

  Coulomb’s constant = k = 9 x 109 (SI)

1. In the Bohr model of the hydrogen atom, the electron is in a circular orbit about the nuclear proton at a radius of 5.29 x 10-11 m as shown below. The mass of the electron is 9.11 x 10-31 kg. Determine the speed of the electron. [Centripetal Force = $F\_{C}=\frac{mv^{2}}{r}$], e= 1.6 x 10-19 C.

 