



\vec{F}_c - Coulomb's force
 \vec{F}_{cf} - Centrifugal force

$$\vec{F}_c + \vec{F}_{cf} = 0$$

$$\frac{m_e v^2}{R} + \frac{(-e) \cdot z \cdot e}{4\pi\epsilon_0 R^2} = 0 \Rightarrow \frac{m_e v^2}{R} = \frac{(+e) \cdot z \cdot e}{4\pi\epsilon_0 R^2}$$

$$E_{\text{electron}} = E_{\text{potential}} + E_{\text{kinetic}}$$

$$E_{\text{electron}} = \int \vec{F}_c \cdot d\vec{r} + \frac{m_e v^2}{2}$$

$$E_p = -\frac{ze^2(-1)}{4\pi\epsilon_0 R} \xrightarrow{????} E_p = \frac{ze^2}{4\pi\epsilon_0 R}$$

NOT CORRECT

???? MINUS FROM integration
 cancels one in the charges