Given the following formula for the energy of a one-electron atom, what would be the energy of a ground-state He\(^+\) ion?

\[ E_n = -\frac{m_e Z^2 e^4}{8 \varepsilon_0^2 \hbar^2 n^2} \]

a. same energy as a hydrogen atom  
b. four times the energy of a hydrogen atom  
c. twice the energy of a hydrogen atom  
d. half the energy of a hydrogen atom  
e. one fourth the energy of a hydrogen atom