Homework Quiz #2B
Solution outline

(a) Give the value of the 1st ionization energy of beryllium (Be). Express your answer in joules (J). Explain how you arrived at your result.

from the periodic table, the first ionization energy of Be is given as 9.322 eV

convert to J by multiplying by 1.6×10^{-19} to get 1.49×10^{-19} J

(b) Give the value of the 4th ionization energy of beryllium (Be). Express your answer in joules (J). Explain how you arrived at your result.

Be^{3+} is a one-electron atom so we can get the value of its ionization energy using the Bohr model

$I.E. = E_\infty - E_1 = 0 - (-KZ^2) = 2.18 \times 10^{-18} \times 4^2 = 3.49 \times 10^{-17}$ J