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Ionization Energy for H atom in state n

$$= -E_n = \frac{13.6}{n^2} \text{ eV}$$

For other atoms w/ atomic # Z

$$= 13.6 \frac{Z^2}{n^2} \text{ eV}$$

So

a) $-E_3 = \frac{13.6}{9} \text{ eV} = 1.54 \text{ eV}$

b) $\text{He} \Rightarrow Z=2$

$$-E_2 = 13.6 \left(\frac{2}{2} \right)^2 = 13.6 \text{ eV}$$

c) $\text{Li} \Rightarrow Z=3$

$$-E_4 = 13.6 \left(\frac{3}{4} \right)^2 = 7.65 \text{ eV}$$