

1. List the electron configurations of all the noble gases.

He

Ne

Ar

Kr

Xe

Rn

2. Mg the first ionization energy

$$I_1 = 735 \text{ kJ/mole}$$

$$I_2 = 1445 \text{ kJ/mole}$$

$$I_3 = 7330 \text{ kJ/mole}$$

Explain I_2 to I_3 why the energy increases (jumps)

3. Al

$$I_1 = 580 \text{ kJ/mole}$$

$$I_2 = 1815 \text{ kJ/mole}$$

$$I_3 = 2740 \text{ kJ/mole}$$

$$I_4 = 11600 \text{ kJ/mole}$$

Explain the trend

4. Explain why there is a slight decrease in ionization energy going from elements in group 2 (Mg= 735 kJ/mole) to group 13 (Al 580 kJ/mole)