

1. Write the electron configuration and orbital diagram for the following elements. *You may use the short hand noble gas notation.* (4 pts)

a. Mg



b. Br



c. Ag^+

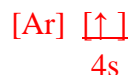


d. As



2. Predict if the following elements are paramagnetic or diamagnetic. (2 pts)

a. K



Paramagnetic
(one unpaired electron)

b. Zn^{2+}



Diamagnetic
(no unpaired electrons)

3. List the following elements in order of increasing ionization energy. *The lowest should be on the left and the highest on the right.* (4 pts)

Sn, Cl, Ra, Ne

$\text{Ra} < \text{Sn} < \text{Cl} < \text{Ne}$

Smallest

Largest