Worksheet - Periodic Properties

Worksheet goal: Work in your groups and use your TA, notes, and text as a guide if necessary.

1. I am one of the elements. I am a soft metal, and you can cut me with a knife, but watch out because I am highly reactive. I have the largest atomic radius of any element in my period. Within my group I have the largest atomic radius of the elements that have no d-electron shells filled. Who am I?

2. Consider the following atoms: O, F, Ne, Na, and Mg. Order them in terms of increasing radius.

Order the above atoms in terms of increasing ionization energy.

3. I am one of the elements. I have a high electron affinity (highly negative value), and my atomic number is N. The element with atomic number N-1 has a lower ionization energy and a lower electron affinity (less negative value). The element with atomic number N+1 has a higher ionization energy and basically no electron affinity (positive value). I am toxic in my elemental state, but I am very commonly found in my nontoxic ionic state. Within my group, I have the second highest ionization energy. Who am I?