Ionic Bonding Worksheet **Honors Chem**

Name _____

My freshman science teacher taught ionic bonding as a "relationship" in which the metal was the man, giving a ring away to the nonmetal, which was the (I swear, these were his words) "greedy woman" taking and taking the ring from the metal. It wasn't nearly politically correct, but Mr. Hoffmeister got the idea across, and I'm a science teacher now because of crazy stuff like that.

In this worksheet, you'll be looking at the various reasons behind and mechanisms involved in ionic bonding. Let's start with the background information.

1. Write the noble gas core electron configurations *and* Lewis dot symbols for *and* the modified Bohr models for…

   a) a neutral sodium atom b) a neutral sulfur atom

2. Which of those two (1a or 1b) will have the higher electronegativity? Why? Answer in a complete sentence or two.

3. Which of those two (1a or 1b, again) will have the higher first ionization energy? Why? Answer in a complete sentence or two.

4. So, if those two atoms were put next to each other, which way would the electrons go (toward sodium or toward sulfur)? Why? Use your answers from #2 and #3 to explain.

5. Define the octet rule.

6. In regards to the octet rule, how many electrons does sodium have to lose or gain to be stable, in other words, to have a full octet?

   (circle your choice) loose / gain ___ electrons

7. In regards to the octet rule, how many electrons does sulfur have to lose or gain to be stable, in other words, to have a full octet?

   (circle your choice) loose / gain ___ electrons