Name: _____

Block: _____

Periodicity Review

Fill in the table for each of the elements listed.

Element	**N**	**Mg**	**Br**	**Sb**	**Ne**	**Na**
metal/nonmetal/ metalloid?						
period #						
group #						
group name (if any)						
# valence electrons						
name another element in the same group with higher electronegativity						
name another element in the same group with lower electronegativity						
name another element in the same period with higher 1^{st} ionization energy						
name another element in the same period with lower 1^{st} ionization energy						
name a larger element in the same period						
name a smaller element in the same period						
charge of the most common ion of this element						
is this ion larger or smaller than the neutral atom?						
is this ion larger or smaller than the noble gas with the same electron configuration?						

1. The following numbers are the ionization energy values for each of the elements in period 2, but out of order. For each of the ionization energy values, give the element that corresponds with it.

(a) 11.2603eV	(c) 13.6181ev	(e) 5.3917eV	(g) 21.5645eV
(b) 9.3226eV	(d) 8.298eV	(f) 14.5341eV	(h) 17.4228eV

2. An element has the following ionization energies: 1^{st} = 419 kJ/mol; 2^{nd} = 3051 kJ/mol; 3^{rd} = 4411 kJ/mol. Which group is the element in? How do you know?

3. Which elements could take an electron from phosphorus? (*I.e.,* which ones have higher electronegativities?)

4. Arrange elements 14–20 from largest to smallest (atomic radius).

5. Arrange the ions that have the same number of electrons as argon (from silicon to calcium) from largest to smallest.