PERIODIC TRENDS WORKSHEET

NAME: _____________________________

ATOMIC RADIUS

1. Does atomic radius increase or decrease as you go down a group/family on the periodic table? ________________
2. What causes this trend?

3. Does atomic radius increase or decrease as you go across a period/row on the periodic table? ________________
4. What causes this trend?

5. Circle the atom in each pair that has the largest atomic radius.
   a) Al B  b) S O  c) Br Cl
   d) Na Al  e) O F  f) Mg Ca

IONS

6. Define an ion.

7. What is the difference between a cation and an anion?

8. Which is larger, Ca²⁺ or Ca and why?

9. Which is larger, F⁻¹ or F and why?

10. How does the ionic radius of a nonmetal compare with its atomic radius?
IONIZATION ENERGY

11. Define ionization energy.

12. What trend in ionization energy do you see as you go down a group/family on the periodic table? ________________  
13. What causes this trend?

14. What trend in ionization energy do you see as you go across a period/row on the periodic table? ________________  
15. What causes this trend?

16. Circle the atom in each pair that has the greater ionization energy.  
   a) Li Be  b) Na K  c) Cl Si  
   d) Ca Ba  e) P Ar  f) Li K

ELECTRONEGATIVITY

17. Define electronegativity.

18. What trend in electronegativity do you see as you go down a group/family on the periodic table? ________________  
19. What trend in electronegativity do you see as you go across a period/row on the periodic table? ________________  
20. Which element has the greatest electronegativity? ________________

21. Circle the atom in each pair that has the greater electronegativity.  
   a) Ca Ga  b) Li O  c) Cl S  
   d) Br As  e) Ba Sr  f) O S