Trends HW # 1

name

1	Define net nuclear charge
2	What is the net nuclear charges for each of these atoms?

Mg	P	Sc	V	Au	Ir	Cr	Hg

3	Finish this statement: The GROUP TREND for net nuclear charge is
4	Finish this statement: The PERIOD TREND for the net nuclear charge is
5	The atomic mass of nickel is slightly less than the mass of cobalt? Does this destroy the period trend?
6	Finish this statement: The GROUP TREND for atomic radius is
7	Finish this statement: The PERIOD TREND for atomic radius is

8 FILL IN THIS TABLE

Group 2	atomic radius (pm)
Be	
Mg	
Ca	
Sr	
Ba	

10 explain why the group trend for atomic radius is increasing, and then say why the period trend for atomic radius decreases.

9 FILL IN THIS TABLE

Period 3	Na	Mg	Al	Si	P	S	Cl
atomic radius (pm)							

Trends HW # 2

name

1	The symbol of most nonmetallic element on the periodic table is:
2	The symbol of the most metallic element on the periodic table is:
3	Circle the most metallic of these elements. Zinc Copper Iron
4	Circle the most nonmetallic of these three elements Krypton Fluorine Sulfur
5	What is the name of the group 2 metals?
6	What is the name of the group 17 nonmetals?
7	What is the name of the group 1 metals?
8	How many elements are in group 3?
9	List the symbols of the metalloids:
10	Groups 3-12 and the "triangle" of metals from Al → Tl → Po make up the
11	Name the element that has the greatest density?
12	How many p+, n° and e^- are in this densest element?
13	Skip this one.
14	What is the exact mass in AMU of the most common isotope of the element Ta?
15	List the symbols of all of the nonmetals in the boxes below. There are more boxes than nonmetals.

Trends HW # 3 name

1	Define 1st Ionization Energy.
2	Finish this statement: the GROUP TREND for 1st Ionization energy is…
3	Why does this group trend occur?
4	Finish this statement: the PERIOD TREND for 1st Ionization energy is…
5	Why does this period trend occur?
6	Write the name of the quadrant of the periodic table has the highest 1st Ionization energy Top Left Bottom Left Top Right Bottom Right
7	Define electronegativity:
8	Define Arbitrary Scale:
9	Define Relative Scale:
10	What is the symbol of the element with the greatest electronegativity value?
11	Why do none of the noble gases have electronegativity values?
12	That's a fib, one noble gas has an electronegativity value. Which one has an EN value? Does this destroy the trend that noble gases do not have electronegativity values?

Trends HW # 4

name

1 Circle the larger species of each pair		
Na° atom Na^{+1} cation	N^{-3} anion N° atom	Al^{+3} cation Al° atom
F° atom F^{-1} anion	Mg° atom Mg^{+2} cation	O° atom O^{-2} anion

2	Why are anions ALWAYS larger than the atoms they formed from?
3	Why are cations ALWAYS smaller than the atoms they formed from?
4	Finish this statement: the PERIOD TREND for atom radius (size) is…
5	Finish this statement: the GROUP TREND for atom radius (size) is…
6	Finish this statement: the PERIOD TREND for cation size is…
7	Finish this statement: the GROUP TREND for cation size is…
8	Finish this statement: the PERIOD TREND for anion size is…
9	Finish this statement: the GROUP TREND for anion size is…
10	Why do the atoms, cations, and anions all decrease in size in a period?
11	Why do atoms, cations, and anions all increase in size going down any group?