

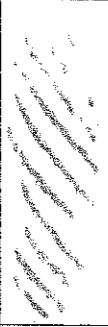



Copper		
Fe ⁺²		

Ch 6

1. Fill in the blanks with **increases** or **decreases**.

- As you move across a period, atomic radius _____
- As you move down a group, atomic radius _____
- As you move across a period, reactivity _____ (metals area)
- As you move down a group, reactivity _____ (non-metals area)
- As you move across a period, ionization energy _____
- As you move down a group, ionization energy _____
- As you move across a period, electronegativity _____
- As you move down a group, electronegativity _____

9. Which gives the correct order from smallest radius to largest radius (can be more than one answer)?

- Ne, O, C, Be
- C, Si, Ge, Sn
- K, Se, Br, Kr
- He, Ne, Ar, Kr

10. A positive ion (cation), like K⁺¹ has a larger/smaller radius than the neutral atom of potassium.

11. A negative ion (anion), like Br⁻¹ has a larger/smaller radius than the neutral atom of bromine.

12. Circle the ^{one} in each pair that has the **largest** radius.

- Al Al⁺³
- S S⁻²
- Br Br⁻¹
- Na Na⁺¹

13. Define reactivity

14. Circle the atom in each pair that has the **greater reactivity**?

- Li Be
- Na K
- Cl Si
- Ca Ba
- P Ar
- Li K

15. Define ionization energy

16. Circle the atom in each pair that has the **greater ionization energy**.

- Li Be
- Na K
- Cl Si
- Ca Ba
- P Ar
- Li K

17. Define electronegativity

18. Circle the atom in each pair that has the **greater electronegativity**.

- Ca Ga
- Li O
- Cl S
- Br As
- Ba Sr
- O S

19. Are elements more or less metallic as you move across a period in the periodic table?

20. What are the common properties of metals?

Unit Test Review Ch. 4, 5 & 6
Ch 4

1) Rubidium is a soft, silvery-white metal that has two common isotopes, ^{85}Rb and ^{87}Rb . If the abundance of ^{85}Rb is 72.2% and the abundance of ^{87}Rb is 27.8%, what is the average atomic mass of rubidium? ^{85}Rb 84.912amu
 ^{87}Rb 86.909amu

2) Describe location and charge of subatomic particles.

Ch 5

1. Describe the quantum mechanical model of an atom?
2. What are the shapes of an s and p orbitals?
3. What is the maximum number of s, p, d and f orbitals?
4. If the spin of one electron is clockwise in an orbital the spin on the second electron must be _____?
5. Using the Aufbau diagram what orbital would come after 3p? _____
6. What is the Aufbau principle?
7. What is the number of electrons in the outermost energy level of fluorine? _____
8. What is the number of electrons in the outermost energy level of aluminum? _____
9. What is Hund's rule?
10. What is the Pauli Exclusion Principle?
11. What types of atomic orbitals are in the second principal energy level? What types of atomic orbitals are in the third principal energy level?

12.

Element symbol and name	FULL electron configuration	SHORTHAND electron configuration- using noble gas notation	Number of valence electrons
nitrogen			
Scandium			
Ruthenium			
Potassium			
Bromine			
promethium			