

Practice Problems Set #2

DIRECTIONS:

- YOU MUST ANSWER EVERY QUESTION IN ORDER TO GET ANY CREDIT!!!
- HIGHLIGHT EACH QUESTION NUMBER ON YOUR NOTEBOOK PAPER SO I CAN QUICKLY SEE THAT YOU HAVE DONE ALL THE PROBLEMS. IF I CAN'T FIND AN ANSWER, YOU WON'T GET CREDIT FOR ANY OF THE PROBLEMS!!!!
- HIGHLIGHT ANY QUESTION NUMBERS ON THIS PAGE THAT YOU WANT HELP WITH, HAVE QUESTIONS WITH, ETC!!!

Q #	QUESTION
1	Why do elements like to form ions?
2	Draw a picture of what happens during atomic absorption. Write 3 sentences describing what happens.
3	Draw a picture of what happens during atomic emission. Write 3 sentences describing what happens.
4	What's the charge on the 3 main types of radiation & what type of charge would they be attracted to?
5	Write the symbols for an alpha particle, beta particle, and a gamma particle.
6	Which radioactive particle is a Helium nucleus? Which is pure energy? Which is an electron?
7	Finish the following nuclear equation: ${}^{99}_{43}\text{Tc} \rightarrow \underline{\hspace{2cm}} + {}^0_{-1}\text{e}$
8	Finish the following nuclear equation: ${}^{238}_{92}\text{U} \rightarrow {}^{234}_{90}\text{Th} + \underline{\hspace{2cm}}$
9	The half-life of Iron-59 is 44.5 days. How much of a 1.750 mg sample will remain after 243.5 days?
10	If the half life of a radioactive substance is 5 weeks, how much are you left with if you started with 85 grams and 35 days passed?
11	Do elements in the same group have the same number of valence electrons? In the same period?
12	Explain why valence electrons are the only e- that are used in any type of bonding. (Ionic, covalent)
13	What is the definition of valence electrons?
14	How many valence electrons does each of the following have: Na, Cs, Be, F, O, S, C, B
15	Label a sketch of a periodic table with the names of each group.
16	List two of each type of atom: metals, nonmetals, metalloid, and transition metals
17	How many electrons does each element need to gain or lose in order to achieve a noble gas configuration? Ca, O, F, N
18	What charge do alkali metals, alkaline earth metals, halogens, and noble gases like to have? (example, alkali metals like to have +1 charge)
19	Sketch the periodic table - draw an arrow pointing from lowest ionization energy towards highest.
20	Rank the atoms from lowest to highest ionization energy: Na, F, Fr, Ca, Fe, S
21	Sketch the periodic table - draw an arrow pointing from lowest electronegativity towards the highest.
22	Rank the following atoms from lowest to highest electronegativity: Na, F, Fr, Ca, Fe, S
23	Draw a sketch of a periodic table and draw an arrow pointing from smallest to largest atomic radius.
24	Rank the following atoms from smallest to largest atomic radius: Na, F, Fr, Ca, Fe, S
25	What are the three main type of bonds?
26	What kind of elements are needed to form each type of bond (meaning metals or nonmetals)
27	Identify the following as ionic, covalent, or metallic compounds CaO, CH ₄ , Zn, Na ₂ SO ₄
28	Describe how to name ionic compounds
29	Describe how to name covalent molecules
30	Name the following compounds. CuCl ₂ K ₂ S Al ₂ O ₃ CaO Na ₂ SO ₄
31	Name the following molecules PCl ₅ H ₂ O Cl ₄ C ₆ H ₁₂ O ₆