

Directions: Using the Reference Tables for Chemistry, locate the following information.

1. Name C_5H_{12} .
2. Write the equation for the decay of Kr-85.
3. Explain how you know that $NaPO_4$ is soluble in water but $NiCrO_4$ is not.
4. What is the definition of STP, and give the values?
5. Name, and give the formulas of the strongest and weakest bases.
6. Name $C_2H_3O_2^-$ or CH_3COO^-
7. What is the solubility of sulfur dioxide at 40 degrees Celsius, in grams?
8. What is the freezing point of fluorine?
9. What are the units for the heat of fusion, and what do they mean?
10. What is the symbol for the mole?
11. What is the vapor pressure of water at $75^{\circ}C$?
12. How much heat does it take to convert 20g of water to steam at $100^{\circ}C$?
13. What is the prefix for 1/1000 of a meter?
14. What is the molecular formula of ammonia?
15. What is the formula for the permanganate ion?
16. Name CH_3COOH
17. Write the symbol for a positron?
18. What is the half-life of Pu-239?
19. Is the formation of water, from its elements endothermic or exothermic?
20. What is the atomic mass of silver?
21. How much heat is released when LiBr dissolves in water?
22. Give the names and formulas of the strongest and weakest acids.
23. What is the general formula for alkynes? What does it mean?

24. What is the electronegativity of chlorine?
25. What is the decay mode of Au-198?
26. What is the ionization energy of Rb?
27. Which atom is more likely to lose electrons, Al or Zn?
28. What is the atomic number of Te?
29. What is the atomic radius of Bromine?
30. What is the oxidation state of sulfur?
31. Which indicator would be the best to use to identify a strong base?
32. Write the electron configuration of potassium.
33. At what temperature will water boil, when the atmospheric pressure is 55 kPa?
34. What is the trend of atomic radii across period 3?
35. Will Mn produce colored ions in solution? Why or why not?
36. Will Sn^{4+} gain or lose electrons when it reacts with Cu?
37. What is the heat of vaporization of water?
38. Will Al react with HCl to produce hydrogen gas?
39. What is the density of tin?
40. In the molecule CCl_4 , what is the EN difference of the C-Cl bond? Is the bond polar or nonpolar? Why? Is the molecule polar or nonpolar? Why?

Using table T, solve the following problems:

41. Give the parts per million of solute for a solution containing 25g of sodium chloride in 200g of water.
42. If the accepted value for the mass of an object is 10.3g and a student found that the mass was 10.1g, what is the student's percent error?
43. If a peanut is burned in a calorimeter containing 50g of water, and the water temperature changes from 45°C to 57°C , how many joules of energy were released by the peanut?