

CHEMISTRY 11 REVIEW QUESTIONS

The following problems are based on material that you learned in Chemistry 11 and that you must know thoroughly in order to be able to do well in Chemistry 12!!!

- Provide answers to the following, using the correct number of sig. figs.
 - $0.00376 + 12.48 =$
 - $0.00376 \times 12.48 =$
- What is the difference between fluorine and fluoride? What is the charge on each?
- Write names for the following compounds:
 - CdCl_2
 - $\text{Ca}(\text{NO}_2)_2$
 - KMnO_4
 - AsCl_3
 - $(\text{NH}_4)_2\text{CO}_3$
 - ICl_5
 - CuF_2
 - PbS
- Write chemical formulas for the following compounds:
 - magnesium chloride
 - calcium chlorite
 - nickel II chloride
 - diphosphorus hexoxide
 - sodium bicarbonate (baking soda)
 - ammonium oxalate
 - potassium hydrogen phosphate
 - xenon tetrachloride
- Write balanced chemical equations for the following reactions:
 - copper + sulfur \rightarrow copper II sulfide
 - nitrogen gas + hydrogen gas \rightarrow ammonia
 - methane + oxygen \rightarrow carbon dioxide + water
- Label the following compounds as covalent or ionic:
 - CH_4
 - PbS
 - NO_2
 - AlCl_3
- Calculate the mass in grams of the following:
 - one atom of fluorine
 - five atoms of sodium
- Calculate the molar mass of the following:
 - BaCO_3
 - $\text{CuCl}_2 \cdot 2\text{H}_2\text{O}$
- For each of the compounds in Problem 8, calculate the number of moles present in a sample having a mass of 5.00×10^2 g.

(a) HCl (b) C₃H₈ (c) SO₂ (d) NH₄Cl (e) KOH (f) H₂SO₄ (g) H₂O (h) AgNO₃
(i) PbSO₄ (j) H₃PO₄ (k) Ca(OH)₂ (l) Al(OH)₃ (m) P₂O₅ (n) Ba(OH)₂ (o) CH₃COOH (p) CH₃CH₂OH

22. Classify the above chemical formulae as ionic or covalent by making two lists. Describe the difference between an ionic and covalent compound.
23. Classify the above as acids, bases, salts or covalent by making four lists.
24. Describe how you can identify each of the four categories by the formula of the compound.
25. Describe how each of the four categories would react with litmus paper and conduct electricity when dissolved in solution.
26. For each compound that conducts electricity, write a dissociation equation to describe how it ionizes in water.

