

## Chapter 7

### End-of-Chapter Questions

1. Write the symbols and charges for the following ions:  
(a) sulfide                      (b) calcium                      (c) iodide.
2. Write the symbols and charges for the following ions:  
(a) aluminum                      (b) phosphide                      (c) tin(II).
3. Write the names for the following ions:  
(a)  $\text{Co}^{2+}$                       (b)  $\text{K}^+$                       (c)  $\text{N}^{3-}$
4. Write the names for the following ions:  
(a)  $\text{F}^-$                       (b)  $\text{Hg}^{2+}$                       (c)  $\text{Cd}^{2+}$
5. Predict the formula of the ionic compound formed between each of the following pairs of elements and then name them.  
(a) sodium and sulfur  
(b) aluminum and phosphorus  
(c) nickel and bromine  
(d) lead and oxygen (two possibilities)
6. Predict the formula of the ionic compound formed between each of the following pairs of elements and then name them.  
(a) calcium and chlorine  
(b) zinc and nitrogen  
(c) magnesium and iodine  
(d) iron and oxygen (two possibilities)
7. Correctly name the following ionic compounds:  
(a)  $\text{HgO}$                       (b)  $\text{Li}_2\text{O}$                       (c)  $\text{Cu}_2\text{O}$
8. Correctly name the following ionic compounds:  
(a)  $\text{FeS}$                       (b)  $\text{SrS}$                       (c)  $\text{Al}_2\text{S}_3$
9. Correctly name the following covalent compounds:  
(a)  $\text{Cl}_2\text{O}_7$                       (b)  $\text{IF}_7$                       (c)  $\text{XeO}_4$
10. Correctly name the following covalent compounds:  
(a)  $\text{SO}_3$                       (b)  $\text{PF}_5$                       (c)  $\text{N}_2\text{S}_3$



24. Name the polyatomic ion in each of the following compounds:  
(a)  $\text{NH}_4\text{I}$                       (b)  $\text{LiOH}$
25. Iron can form two possible cations. Write the formula of the sulfate of each one.
26. Lead can form two possible cations. Write the formula of the nitrate of each one.
27. Write the correct name for each of the following compounds:  
(a)  $\text{Ca}(\text{HCO}_3)_2$                       (b)  $\text{NaH}_2\text{PO}_4$
28. Write the correct formula for each of the following compounds:  
(a) potassium hydrogen sulfite                      (b) calcium hydrogen phosphate
29. Write the correct name for each of the following compounds:  
(a)  $\text{CuCl}_2 \cdot 6\text{H}_2\text{O}$                       (b)  $\text{CoSO}_4 \cdot 7\text{H}_2\text{O}$
30. Write the correct formula for each of the following compounds:  
(a) lithium iodide trihydrate                      (b) iron(II) chloride tetrahydrate
31. Write the correct names for each of the following acids:  
(a)  $\text{HI}(\text{aq})$                       (b)  $\text{HClO}_3(\text{aq})$   
(c)  $\text{H}_2\text{SO}_3(\text{aq})$                       (d)  $\text{HCN}(\text{aq})$
32. Write the correct formulas corresponding to each of the following names:  
(a) phosphoric acid                      (b) hypochlorous acid  
(c) hydrofluoric acid                      (d) nitrous acid