

**CHEMISTRY 112 WORKSHEET**  
**NOMENCLATURE OF COORDINATION COMPOUNDS AND IONS**

A. Name the following complex compounds or ions.

1.  $[\text{Al}(\text{H}_2\text{O})_6] \text{Br}_3$       **Hexaaquaaluminum (III) bromide**
2.  $[\text{Cr}(\text{NH}_3)_6] \text{Cl}_3$       **Hexaamminechromium (III) chloride**
3.  $\text{K}_3 [\text{FeF}_6]$       **Potassium hexafluoroferrate (III)**
4.  $[\text{Zn}(\text{OH})_4]^{-2}$       **Tetrahydroxozincate (II) ion**
5.  $[\text{Co}(\text{H}_2\text{O})_4\text{Cl}_2] \text{Cl}$       **Tetraaquadichlorocobalt (III) chloride**
6.  $[\text{Cu}(\text{NH}_3)_4]^{+2}$       **Tetraamminecopper (II) ion**
7.  $\text{K}_2 [\text{SnCl}_6]$       **Potassium hexachlorostannate (IV)**
8.  $[\text{Pt}(\text{NH}_3)_4\text{Cl}_2] [\text{PtCl}_6]$       **Tetraamminedichloroplatinum (IV) hexachloroplatinate (IV)**

B. Write the formula for each of the following complex compounds or ions.

1. Hexaamminecobalt (III) chloride       $[\text{Co}(\text{NH}_3)_6] \text{Cl}_3$
2. Diamminetetrabromoplatinum (VI) bromide       $[\text{Pt}(\text{NH}_3)_2 \text{Br}_4] \text{Br}_2$
3. Tetraaquacadmium (II) nitrate       $[\text{Cd}(\text{H}_2\text{O})_4] (\text{NO}_3)_2$
4. Diamminesilver (I) ion       $[\text{Ag}(\text{NH}_3)_2]^+$
5. Sodium tetracyanocuprate (I)       $\text{Na}_3[\text{Cu}(\text{CN})_4]$
6. Silver hexacyanoferrate (II)       $\text{Ag}_4[\text{Fe}(\text{CN})_6]$
7. Tetraammineoxalatonickel (II)       $[\text{Ni}(\text{NH}_3)_4 \text{C}_2\text{O}_4]$