

**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) $[\text{Ni}(\text{NH}_3)_4 \text{C}_2\text{O}_4]$