**Post-Video Quiz Module #13 (Chapter 19: Coordination Chemistry)**

**Show complete work for all questions, then check your work with the video!**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. State the Coordination number, geometry and d-electron count for the following complex ion: [Co(en)3]Cl3
2. [Co(CN)6]2- is complex ion that appears orange. Propose a color that the complex ion [Co(CN)5CO]-could be.
3. [Mn(CN)6]4- is low-spin while [Mn(Cl)6]4- is high-spin. How many unpaired electrons will be in each of these ions?
4. State the **all** types of isomers that could be formed for the following compound: **[Fe(NH3)4(CN)2]Cl.**

Be as specific as possible (i.e. if stereoisomers are applicable, what types specifically?). While not required, it is highly encouraged to draw out these examples.

Spectrochemical Ligand Series:

**I- < Cl- < F- < OH- < H2O < SCN- < NH3 < en < NO2- < CN- < CO**