**In-Class Activity: Electron Counting for Organometallic Complexes**

In groups of 3 or 4, please work through the following problems related to structure and bonding for organometallic complexes. Each group should elect one representative to work out an answer on the board.

For each of the complexes below, please find the following:

a) [ML*l*X*x*Z*z*]Q± designation and equivalent neutral class, if appropriate

b) Valence number, *d*-electron count, ligand bond number

c) "Formal" oxidation state; note if this is different from the valence number

d) Valence electron count for each metal in the complex; note any ambiguities

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| --- | --- | --- | --- | --- |
| **1)** |  |  | **2)** |  |
| **3)** |  |  | **4)** |  |
| **5)** |  |  | **6)** |  |
| **7)** |  |  | **8)** |  |
| **9)** |  |  |  |  |