Student Question:
Which of the following has the smallest atomic radius?

A) Ru  B) Pb
C) Mo  D) Cd
E) Zn
Student Question:
Predict the trend in the ionization energies of the $d$-block metals

A) Ionization energy increases from left to right and decreases going down a period

B) Ionization energy decreases from left to right and decreases going down a period

C) Ionization energy increases from left to right and increases going down a period

D) Ionization energy decreases from left to right and increases going down a period
Student Question:
What is the name of the complex Na[CoCl₃(NH₃)₃]?

A) sodium triamminetrichlorocobaltate(II)
B) sodium triamminetrichlorocobalt(III)
C) sodium tris(aminechloro)cobaltate(II)
D) sodium triamminetrichlorocobalt(II)
E) sodium trichlorotriamminecobalt(III)
Student Question:
Which of the following is the formula of potassium hexacyanoferrate(II)?

A) [Fe(CN)₆]
B) K[Fe(CN)₆]
C) K₂[Fe(CN)₆]
D) K₃[Fe(CN)₆]
E) K₄[Fe(CN)₆]
Student Question:

Which of the complexes is not chiral?

A) 1  
B) 2  
C) 3  
D) 4
Student Question:

Which of the following are an enantiomeric pair

A) 1 and 2  
C) 1 and 4  
E) 2 and 4

B) 1 and 3 
D) 2 and 3 
F) 3 and 4
**Student Question:**
Predict the number of unpaired electrons of an octahedral d⁶ complex (a) strong field ligands and (b) weak field ligands.

A) (a) 4 and (b) 0  B) (a) 0 and (b) 4  
C) None of the above
Student Question:
What change in magnetic properties can be expected when NO$_2^-$ (strong field ligand) ligands in an octahedral complex are replaced by Cl- (weak field ligand) ligands in a $d^6$ complex?

A) The complex goes from paramagnetic to diamagnetic
B) The complex goes from diamagnetic to paramagnetic
C) The complex stays paramagnetic
D) The complex stays diamagnetic