Marks 3

- Complete the following table. (en = ethylenediamine = $NH_2CH_2CH_2NH_2$)

Formula	$K_3[Fe(CN)_6]$	$[Cu(NH_3)_4(H_2O)_2](NO_3)_2$	*cis*-$[CrCl_2(en)_2]Cl$
Oxidation state of transition metal ion	**III or +3**	**II or +2**	**III or +3**
Coordination number of transition metal ion	**6** **(6 × $\underline{C}N^-$)**	**6** **(4 × $\underline{N}H_3$ + 2 × $H_2\underline{O}$)**	**6** **(2 × $\underline{Cl}^-$ + 2 × $\underline{N}H_2CH_2CH_2\underline{N}H_2$)**
Number of *d*-electrons in the transition metal ion	**5**	**9**	**3**
Species formed upon dissolving in water	**$3K^+$** **$[Fe(CN)_6]^{3-}$**	**$[Cu(NH_3)_4(H_2O)_2]^{2+}$** **$2NO_3^-$**	***cis*-$[CrCl_2(en)_2]^+$** **Cl^-**