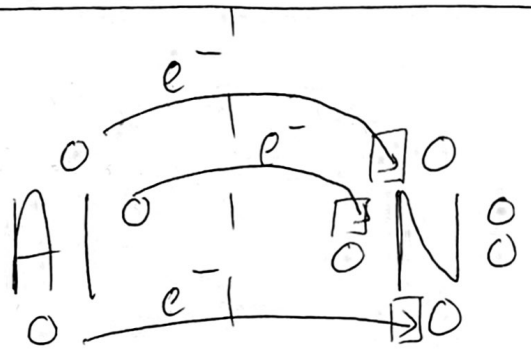
Assignment 4C Example Problems

1 Al and 1 N

Metal	Non-Metal
3 val. e^-	5 val. e^-
+3, lose $3e^-$	−3, gain $3e^-$



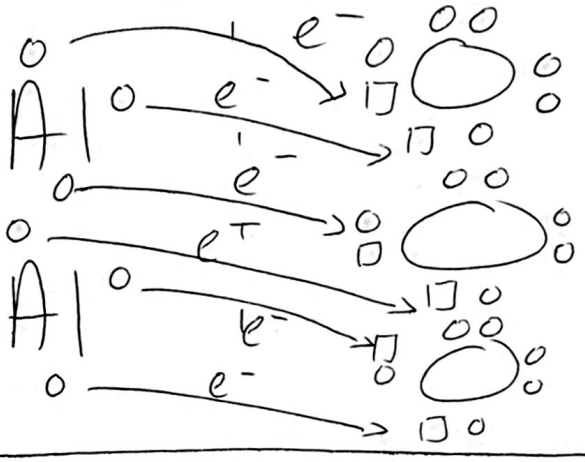
$[Al]^{3+}$ $[:\ddot{N}:]^{3-}$

0 val. e^- 8 val. e^-

$Al_1N_1 \rightarrow AlN$

2 Al and 3 O

Metal	Non-Metal
3 val. e^-	6 val. e^-
+3, lose $3e^-$	−2, ~~lose~~ gain $2e^-$



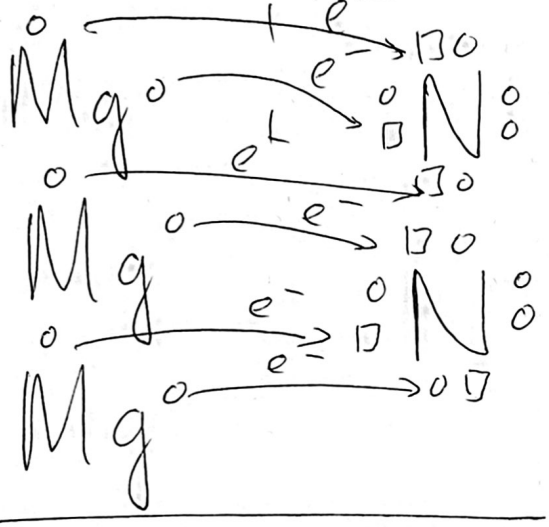
$[Al]_2^{3+}$ $[:\ddot{O}:]_3^{2-}$

0 val. e^- 8 val. e^-

Al_2O_3

3 Mg and 2 N

Metal	Nonmetal
2 val. e^-	5 val e^-
+2, lose 2 e^-	−3, gain 3 e^-



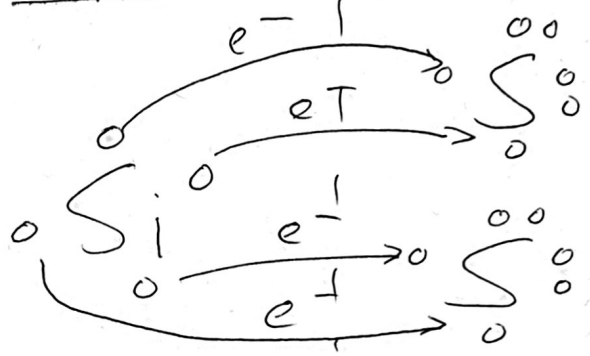
$[Mg]_3^{2+}$ $\left[\ddot{N}\right]_2^{3-}$

0 val. e^- 8 val. e^-

Mg_3N_2

1 Si and 2 S

Metal (metalloid)	Nonmetal
4 val. e^-	6 val. e^-
+4, lose 4 e^-	−2, gain 2 e^-



$[Si]^{4+}$ $\left[\ddot{S}\right]_2^{2-}$

0 val. e^- 8 val. e^-

SiS_2