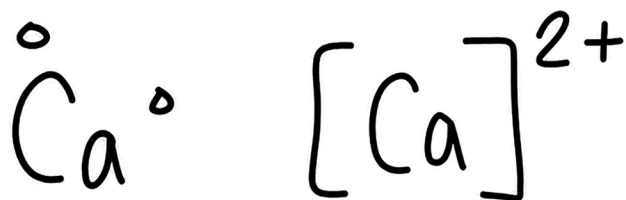


Noteset 2A (Part 4)

Transition Metal Ions

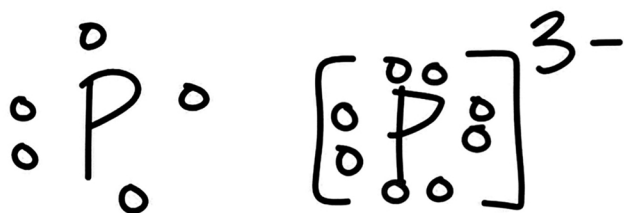
Ion Dot Structure Review

Calcium (Ca) [2A, 2]



<u>Ion Type</u>	<u>Ion Charge</u>	<u>Neutral Val. e⁻</u>	<u>Ion Val. e⁻</u>
Cation	+2	2	0

Phosphorous (P) [5A, 5]



<u>Ion Type</u>	<u>Ion Charge</u>	<u>Neutral Val. e⁻</u>	<u>Ion Val. e⁻</u>
Anion	-3	5	8

Rep vs. Trans. Metals

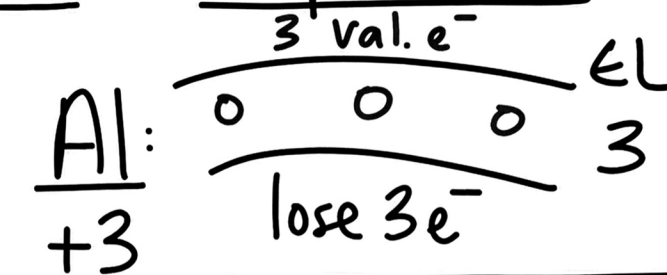
Rep: 1A, 2A, A

Trans: 1B - 10B +

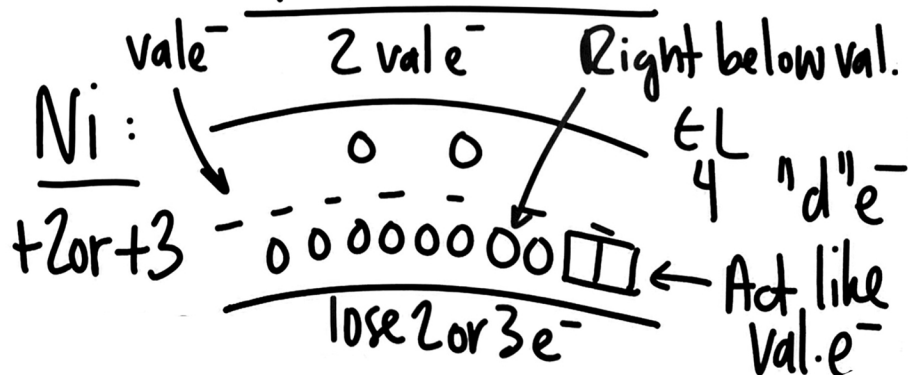
Always In/Tl (3A),
2 val. e⁻ Sn/Pb (4A),
Bi (5A)



Rep. Metal



Trans. Metals



Noteset 2A (Part 4)

Transition Metal Ions

Why are groups 4A and 8A different

group 4A (14) Carbon group

C	nonmetal	shares e^-
Si		
Ge	metalloids	don't bond
Sn		
Pb	Trans. Metals	lose e^-

4A is not consistent (charges change)

group 8A (18) Noble gases

He	8 val e^- no $\rightarrow$ charge!	Ne: $\text{:}\overset{\circ}{\underset{\circ}{\text{N}}}\overset{\circ}{\underset{\circ}{\text{e}}}\text{:}$
Ne		
Ar		
Kr		Ne? $\text{[}\overset{\circ}{\underset{\circ}{\text{N}}}\overset{\circ}{\underset{\circ}{\text{e}}}\text{]}^?$
Xe		

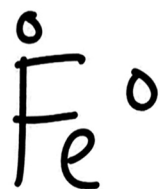
8A has 8 val. e^- (full octet)
Does not bond!

Transition Metal Dot Structures

Iron (Fe) [8B/8]

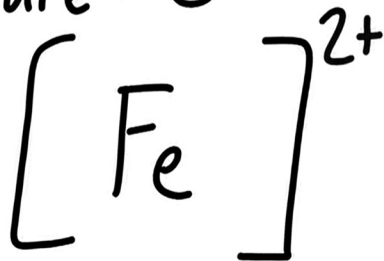
Neutral

val e^- : 2



+2 Ion

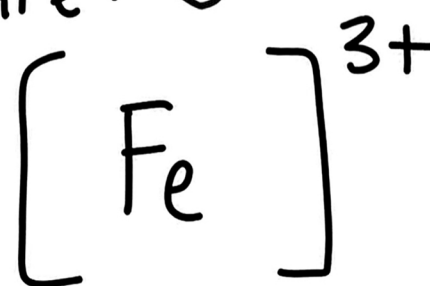
val e^- : 0



Cation

+3 Ion

val e^- : 0



Cation