1. Oxidation #s	C	A. Show the number of atoms in a molecule.	1. Metals	C	A. Elements in column 18A that don't combine into molecules.
2. Negative ion	E	B. An atom that lost electrons.	2. Nonmetals	D	B. The oxidation numbers of these elements can vary.
3. Positive ion	B	C. Shows the number of electrons commonly gained or lost.	3. Octet Rule	E	C. Elements that lose electrons.
4. Subscript	A	D. Way to show an atom's valence electrons to visualize bonding.	4. Noble Gases	A	D. Elements that gain electrons.
5. Lewis Dot Diagrams	D	E. An atom that gains electrons.	5. Transition Metals	B	E. Atoms tend to be more stable with 8 valence electrons.

Give abbreviations and oxidation numbers

Calcium (*Ca*)	+2	Carbon (C)	+4
Potassium (K)	+1	Nitrogen (N)	−3
Chlorine (Cl)	−1	Hydrogen (H)	+1
Helium (He)	0	Magnesium (Mg)	+2
Aluminum (Al)	+3	Krypton (Kr)	0

Give these elements with oxidation # in ion notation

Oxygen (*O*)	O^{2-}	Fluorine (F)	F^{1-}
Nitrogen (N)	N^{3-}	Lithium (Li)	Li^{1+}
Beryllium (Be)	Be^{2+}	Hydrogen (H)	H^{1+}
Silicon (Si)	Si^{4}	Calcium (Ca)	Ca^{2+}
Boron (B)	B^{3+}	Bromine (Br)	Br^{1-}

$MgCl_2$	How many Chlorines?	2
Li_2O	How many Oxygen?	1
Al_2O_3	How many Aluminums?	2
$C_{12}H_{22}O_{11}$	How many Hydrogens?	22
CO_2	How many Carbons?	1
H_2O	How many Hydrogens?	2

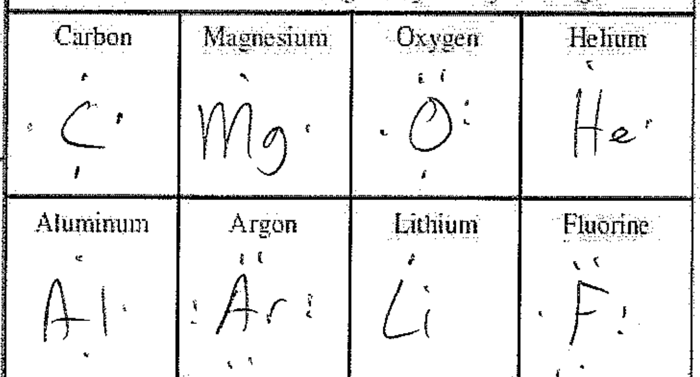
$MgCl_2$ (1 +2)	How many total atoms?	3
Li_2O (2+1)	How many total atoms?	3
Al_2O_3 (2+3)	How many total atoms?	5
$C_6H_{12}O_6$ (6+12+6)	How many total atoms?	24
CO_2 (1+2)	How many total atoms?	3
H_2O (2+1)	How many total atoms?	3

How many electrons are gained or lost?

Na^{1+}	Lost 1	Ca^{2-}	G 2
Al^{3+}	Lost 3	Cl^{1-}	G 1
O^{2-}	G 2	N^{3-}	G 3
He^{0}	0	Si^{4+}	L

Draw the Lewis Dot Diagrams for the following.

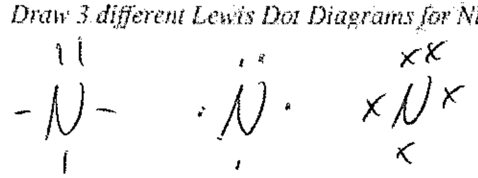
Carbon	Magnesium	Oxygen	Helium
Aluminum	Argon	Lithium	Fluorine



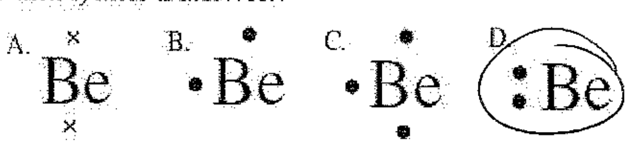
Give abbreviations and valence electrons

Oxygen (*O*)	6	Silicon (Si)	4
Lithium (Li)	1	Nitrogen (N)	5
Bromine (Br)	7	Hydrogen (H)	1
Helium (He)	2	Magnesium (Mg)	2
Aluminum (Al)	3	Neon (Ne)	8

Draw 3 different Lewis Dot Diagrams for Nitrogen.

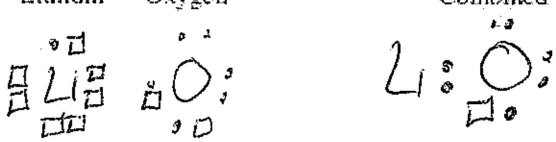


Which of these is incorrect?



Draw Lewis Dot Diagrams for Lithium and Oxygen, then put them together to find how they combine.

Lithium Oxygen Combined



Put boxes around any electrons openings