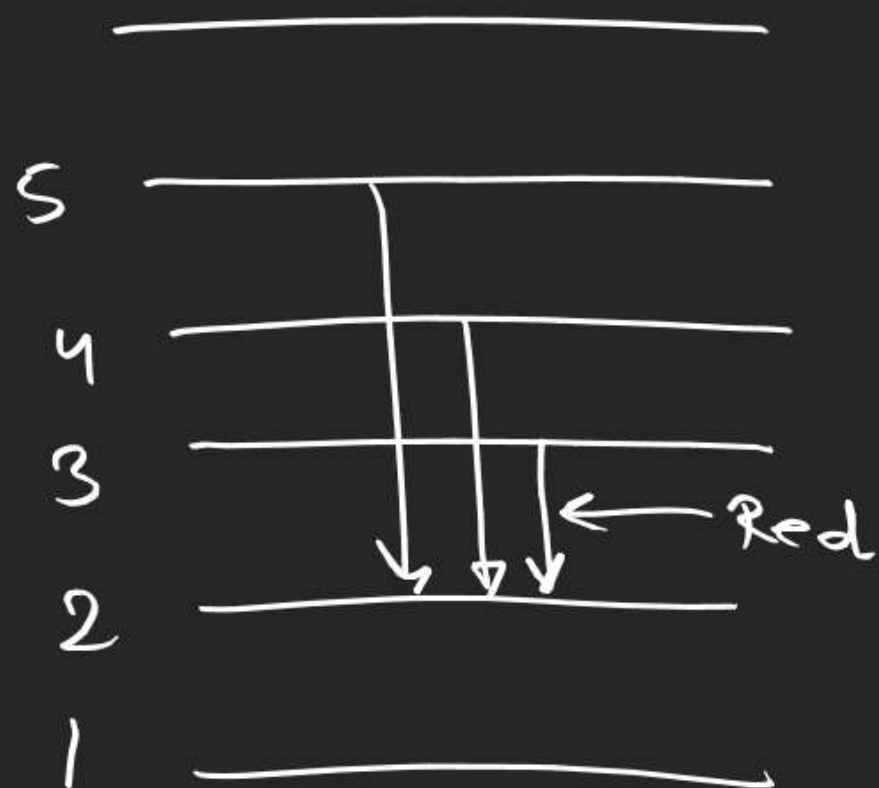


(7)



(12)

$$V = 300$$

$$\Delta V = 300 \times 0.001 \times \frac{1}{100}$$

(13)

$$13.6 \text{ eV/atom}$$

$$= -1.312 \times 10^6 \times \frac{Z^2}{n^2}$$

(16)

$$\frac{242 \times 10^3}{N_A} = \frac{hc}{\lambda}$$

$$\textcircled{18} \quad \frac{\cancel{hc}}{355 \text{ nm}} = \frac{\cancel{hc}}{680} + \frac{\cancel{hc}}{\lambda}$$

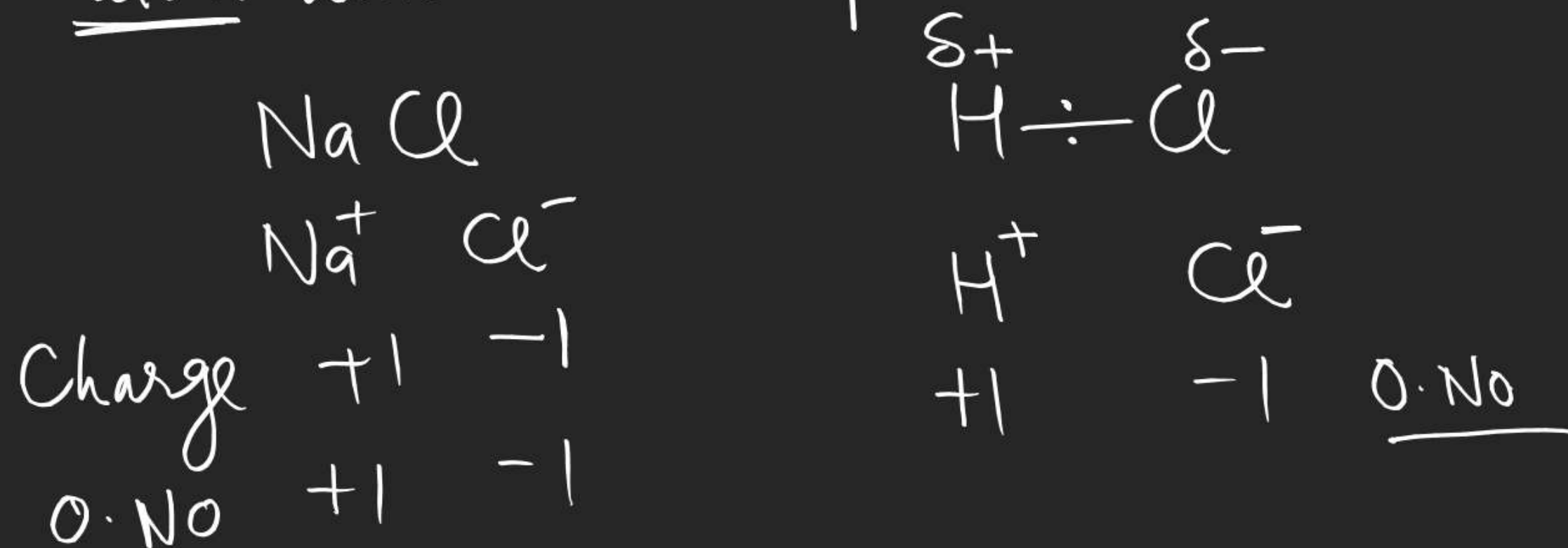
$$\textcircled{22} \quad 2\pi \left(a_0 \frac{n^2}{Z} \right) = n \lambda$$

$$\underline{2\pi a_0 \times 3} = \lambda$$

Redox reaction & equivalent concept: →

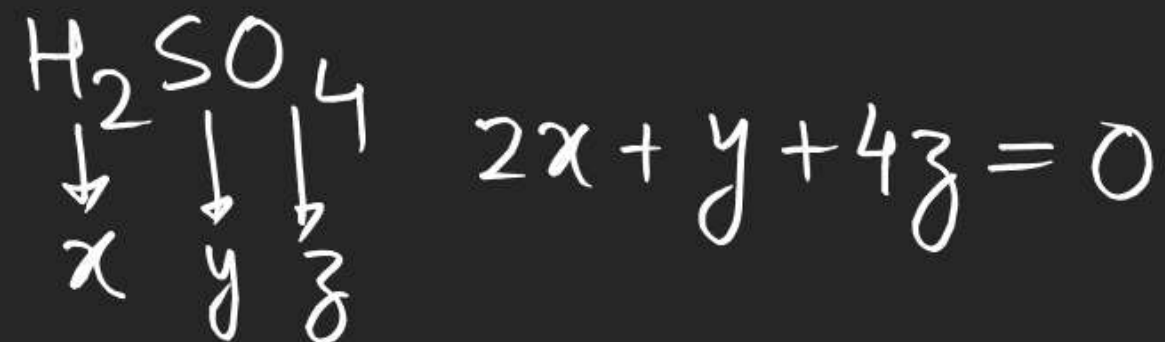
Oxidation number or oxidⁿ state: →

It is equal to the real or imaginary charge present on an atom which the compound is considered 100% ionic.



Rules to determine O. No. \rightarrow

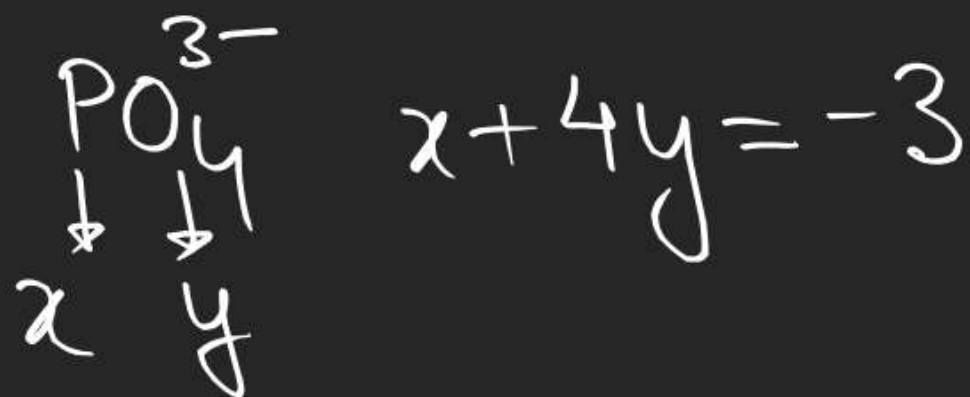
① Sum of O. No. of all the atoms in a neutral molecules/compound is zero



$$\text{H}_2 \rightarrow 2x = 0$$

$$\text{P}_4 \rightarrow 4x = 0$$

② Sum of O. No. of all the atoms in an ion is equal to the charge on ion.



③ O.N. of 'F' in all its compounds is '-1'

e.g. HF, NaF, SF_6

④ O.N. of alkali metal is +1 always

→ Li, Na, K, Cs eg $\overset{+1}{\text{Na}}\overset{-1}{\text{F}}$, $\overset{+1}{\text{Cs}}\overset{-1}{\text{Cl}}$

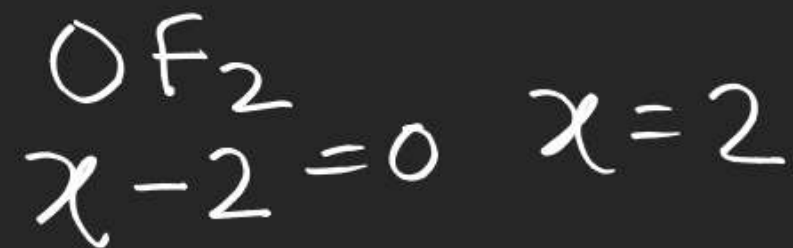
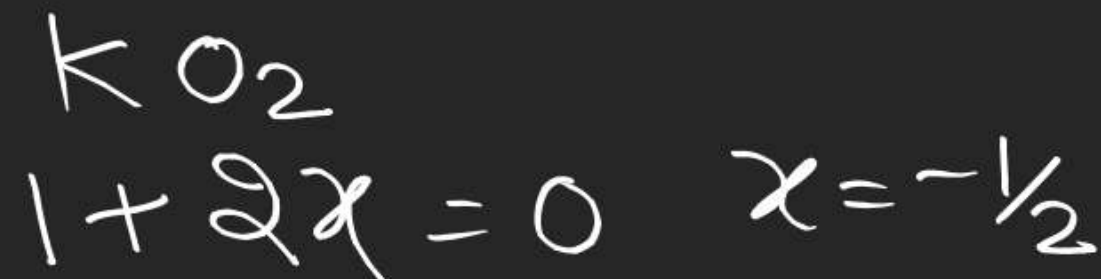
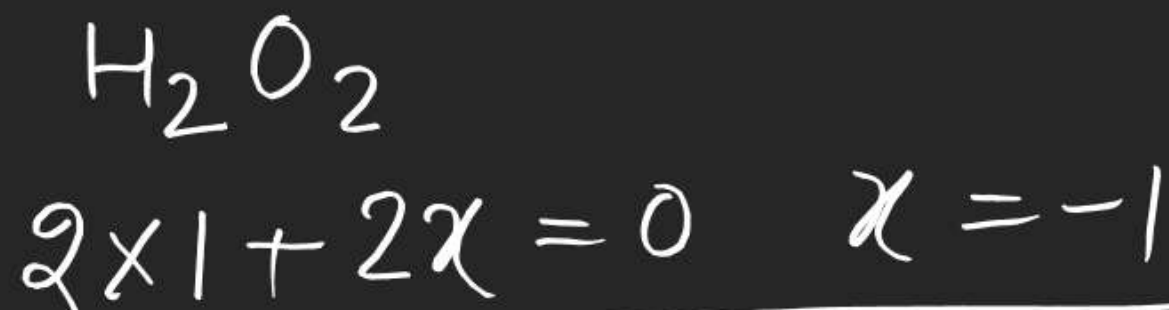
⑤ O.N. of alkaline earth metal is +2 always.

eg. Be, Mg, Ca, Ba, Sr.

⑥ O.N. of 'H' is mostly +1 e.g. H_2O CH_4
 Except metal hydride
 \downarrow
 $\text{Na}^+ \text{H}^-$ $\text{Ca}^{+2} \text{H}_2^{-1}$
 O.N. +1 +1

⑦ O.N. of Oxygen 'O' is mostly -2

Except
 peroxide -1
 (e.g. H_2O_2)
 Superoxide $-\frac{1}{2}$
 (e.g. KO_2)
 OF_2 +2



⑧ for s & p block elements

max oxidation number = group number

min O. No. = group number - 8

	group	<u>range of O. No.</u>
N	→ 5	-3 to +5
C	→ 4	-4 to +4
Q	→ 7	-1 to +7

$$H_2 \leq 0_4$$

$$2 + x + 4(-2) = 0$$

$$x = 6$$

$$K_2 \leq 0_7$$

$$2 + 2x - 14 = 0$$

$$x = 6$$

FIND OXIDATION NUMBER OF UNDERLINED ELEMENTS



4

*oxalic acid*

$2 + 2x - 8 = 0$

$x = 3$

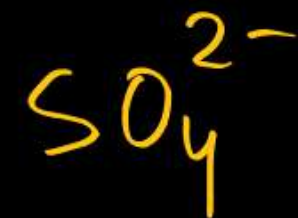


$2x - 8 = -2$

$x = 3$



-2



+6



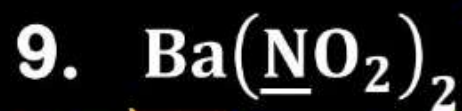
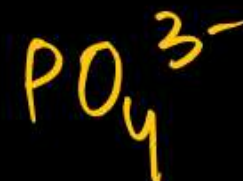
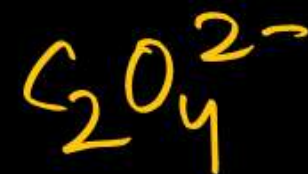
$x - 2 - 2 = 0$



+5



+5



$2 + 2x - 8 = 0$

$x = 3$



-3



0



+5



-3



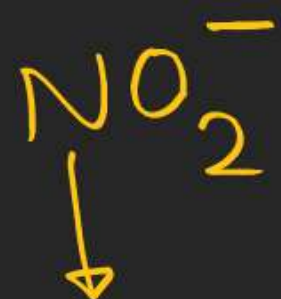
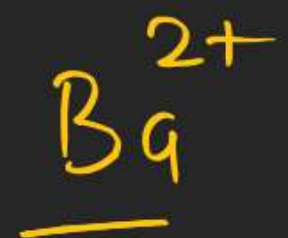
$x = -1$



0



7



$$x - 4 = -1$$

$$x = 3$$

$$\underline{\underline{x = 3}}$$

FIND OXIDATION NUMBER OF UNDERLINED ELEMENTS



$$2x - 2 = 0$$

$$x = 1$$



$$x - 12 = -4$$

$$x = 8$$



$$+7 \quad +7$$



$$+3$$



$$+6$$



$$x = 6$$



$$0.9x - 2 = 0$$

$$x = 20/9$$



$$3x = -1$$

$$x = -1/3$$

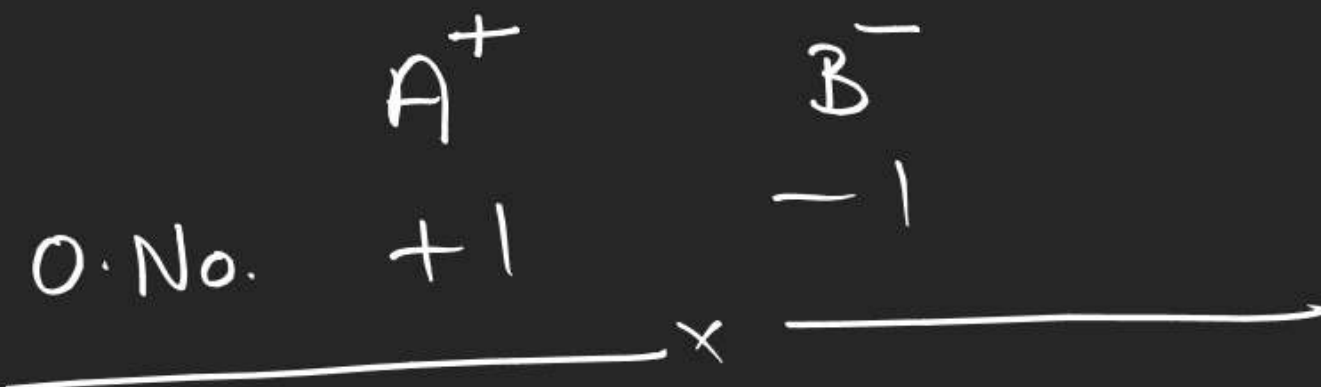


Potassium dichromate^x

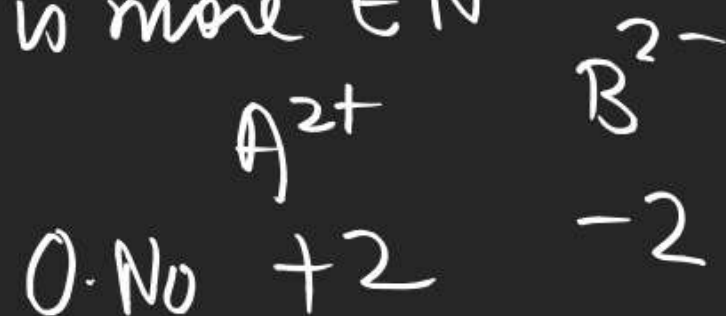
for covalent compound



if B is more EN



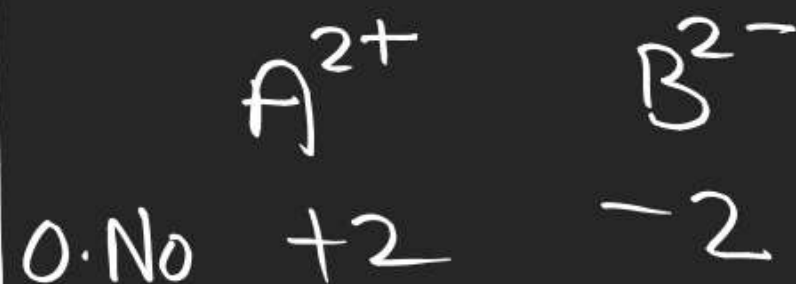
if B is more EN



x

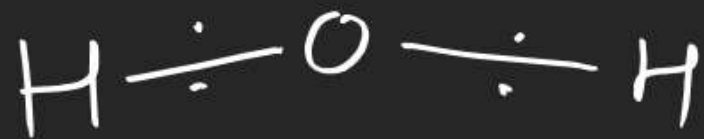


if B is more EN



if A is more EN





J Mains

J-Adv

1-15