

Answer 1.1.) If XCl_2 then X should be a metal with valency 2

- \therefore
- Sulphate Formula: XSO_4
 - Hydroxide Formula: $X(OH)_2$
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Answer 1.2.) XN is nitride. X is a valency 3 metal as nitrogen has valency 3

Therefore, Sulphate's formula would be $X_2(SO_4)_3$ and Hydroxide's formula would be $X(OH)_3$

Answer 1.3) Valency of nitrogen in:

- 1) NO : +2
 - 2) N_2O : +1
 - 3) NO_2 : +4
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Answer 2.1) Three symbols whose first letter is the symbol for them.

- (1) Boron (B)
 - (2) Carbon (C)
 - (3) Hydrogen (H)
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Answer 2.2)

The eight metals showing variable valency:

1) Iron (Fe) : +2, +3

2) Copper (Cu) : +1, +2

3) Mercury (Hg) : +1, +2

4) Tin (Sn) : +2, +4

5) Lead (Pb) : +2, +4

6) Gold (Au) : +1, +3

7) Chromium (Cr) : +2, +3, +6

8) Manganese (Mn) : +2, +3, +4, +6, +7

Answer 2.3 : Examples of chemical equations:

(a) One product : $2\text{H}_2 + \text{O}_2 \longrightarrow 2\text{H}_2\text{O}$

(b) Two product : $\text{CaCO}_3 \longrightarrow \text{CaO} + \text{CO}_2$

(c) Three Products : $4\text{HNO}_3 \longrightarrow 2\text{H}_2\text{O} + 4\text{NO}_2 + \text{O}_2$

(d) Four Products : $2\text{KClO}_3 \longrightarrow 2\text{KCl} + 2\text{O}_2 + \text{O}_2 + \Delta$

Answer 2.4.) Symbols in chemical equation mean:

(i) \uparrow - Gas evolved

(ii) \downarrow - precipitate formed

(iii) (s) - solid state

(iv) (l) - liquid state

(v) (g) - gaseous state

(vi) (aq) - aqueous solution