

12th grade answers

1)

Metallic: *Hg; Li*.

Covalent polar: *HBr; CO; H₂O*

Ionic: *NaCl*

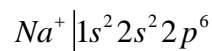
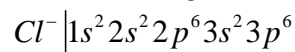
Covalent non-polar: *I₂*

Ionic between *Cs - O* , covalent polar between *O - H* .

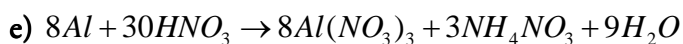
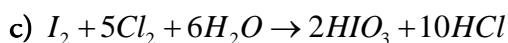
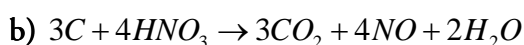
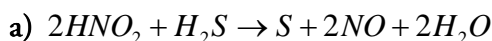
Covalent polar between both *Fe - O* and *O - H* .

In helium there are only intermolecular forces.

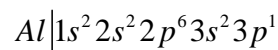
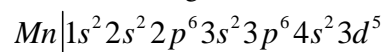
Electron configurations:



2)



Electron configurations:



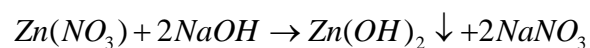
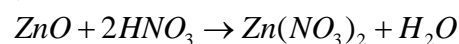
3)

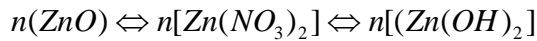
a) BO

$$n(B) = n(O) \frac{80,25}{M(B)} \Leftrightarrow \frac{19,75}{16} \rightarrow M(B) = 65 \text{ g/mol} = M(Zn)$$

A = ZnO

b) i)

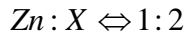




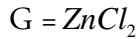
$$m[\text{Zn}(\text{OH})_2] = 495 \text{ g} \quad M(\text{ZnO}) = 81 \text{ g/mol}$$

$$m_{\text{tegelik}}(\text{ZnO}) = \frac{495}{99} * \frac{100}{75} * \frac{100}{85} * \frac{110}{100} * 81 = 699 \text{ g}$$

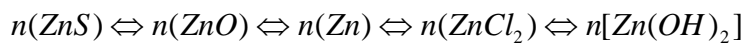
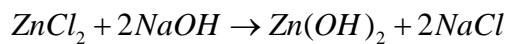
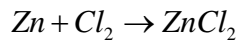
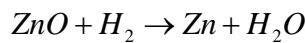
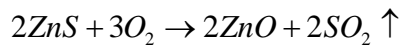
ii)



$$\frac{47,79}{65} : \frac{52,21}{2 * M(\text{X})} \Leftrightarrow 1 : 2 \Rightarrow M(\text{X}) = \frac{52,21 * 65}{47,79 * 2} = 35,5 = M(\text{Cl})$$



$$M(\text{ZnCl}_2) = 136 \text{ g/mol}$$



$$m_{\text{tegelik}}(\text{ZnS}) = \frac{495}{99} * \frac{100}{75} * \frac{100}{92} * \frac{105}{100} * \frac{100}{78} * 97 = 946 \text{ g}$$

iii)

ZnO will cost $6 * 33 = 198\$$

ZnS will cost $5 * 45 = 225\$$

$198\$ < 225\$$

c)

A = ZnO, zinc oxide

B = Zn, zinc

C = $\text{Zn}(\text{NO}_3)_2$, zinc nitrate

D = $\text{Zn}(\text{OH})_2$, zinc hydroxide

E = ZnS, zinc sulphide

F = Cl_2 , chlorine

G = ZnCl_2 , zinc chloride

d)

