

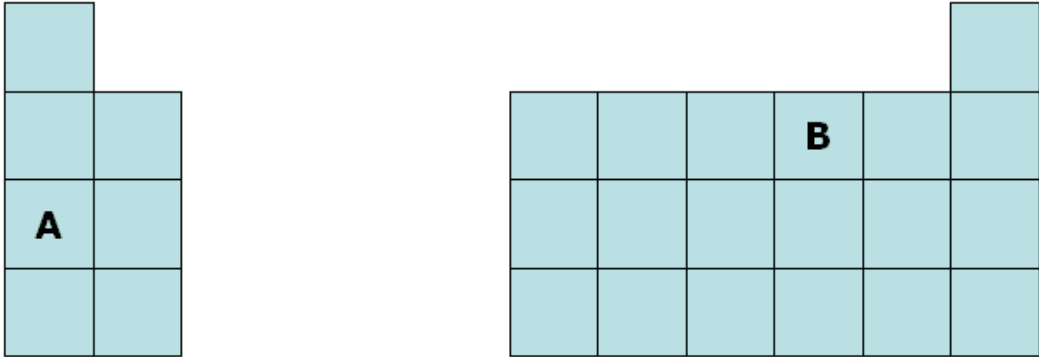
ERREPASO-ARIKETAK #01

Izena	Kurtsoa
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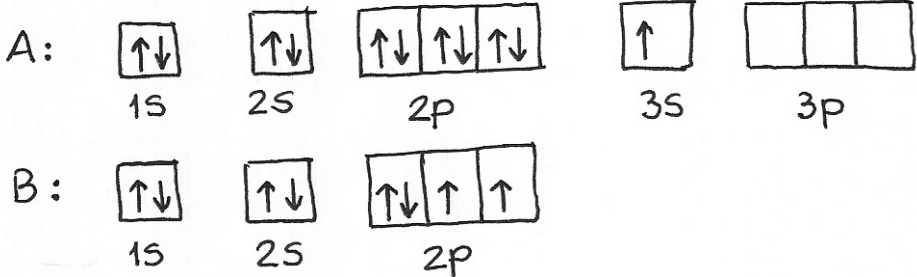
1	<b>FORMULAZIOA:</b> Osatu ondoko taula
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Izenak	Egiturak	Formulak
Ura	$\text{H} - \ddot{\text{O}} - \text{H}$	$\text{H}_2\text{O}$
Azido sulfurikoa	$\begin{array}{c} \text{:O:} \\ \parallel \\ \text{H} - \ddot{\text{O}} - \text{S} - \ddot{\text{O}} - \text{H} \\ \parallel \\ \text{:O:} \end{array}$	$\text{H}_2\text{SO}_4$
Kaltzio karbonatoa	$\text{Ca}^{2+} \quad \begin{array}{c} \text{:}\ddot{\text{O}}=\text{C}-\ddot{\text{O}}\text{:}^- \\   \\ \text{:}\ddot{\text{O}}\text{:}^- \end{array}$	$\text{CaCO}_3$
Amoniakoa	$\begin{array}{c} \text{H} \\   \\ \text{H} - \text{N} - \text{H} \\ \text{:} \end{array}$	$\text{NH}_3$
Potasio sulfatoa	$2 \text{K}^+ \quad \begin{array}{c} \text{:}\ddot{\text{O}}\text{:}^- \\   \\ \text{:}\ddot{\text{O}} - \text{S} - \ddot{\text{O}}\text{:}^- \\   \\ \text{:}\ddot{\text{O}}\text{:}^- \end{array}$	$\text{K}_2\text{SO}_4$
Amonio sulfuroa	$2 \quad \begin{array}{c} \text{H} \\   \\ \text{H} - \text{N}^+ - \text{H} \\   \\ \text{H} \end{array} \quad \begin{array}{c} \text{:}\ddot{\text{S}}\text{:}^{2-} \end{array}$	$(\text{NH}_4)_2\text{S}$
Azido nitrikoa	$\text{H} - \ddot{\text{O}} - \text{N} = \ddot{\text{O}}\text{:} \\ \parallel \\ \text{:}\ddot{\text{O}}\text{:}$	$\text{HNO}_3$
Magnesio hidroxidoa	$\text{Mg}^{2+} \quad 2 \text{H} - \ddot{\text{O}}\text{:}^-$	$\text{Mg}(\text{OH})_2$

**2 TAULA PERIODIKOA eta LOTURAK**  
Galderak erantzun



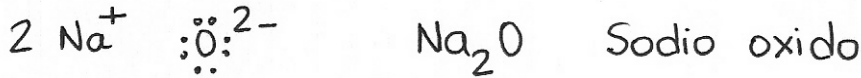
- Adierazi "A" eta "B" elementuen ikurrak eta izenak  
 $A: \text{Na} - \text{sodio}$   
 $B: \text{O} - \text{oxigeno}$
- Eman atomo neutroen konfigurazio elektronikoak kutxa-diagrama formatuan



- Adierazi zein ioi emateko joera izango duten



- Alderatu erradio atomikoak  
 $r(\text{Na}) > r(\text{O})$
- Alderatu atomo neutro eta ioiaren erradio atomikoak bi kasuetan  
 $r(\text{Na}) > r(\text{Na}^+) \quad r(\text{O}) < r(\text{O}^{2-})$
- Alderatu elektronegatibotasuna  
 $en(\text{O}) > en(\text{Na})$
- Eman beraien artean osatzen duten konposatuaren formula eta izena

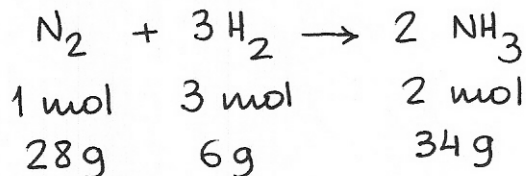


Amoniakoa lortzeko asmoz, ontzi batean 4 mol nitrogeno eta 7 g hidrogeno sartzen dira.

1. Doitu ekuazio kimikoa



2. Kalkulatu eta adierazi zein den errektibo mugatzailea



$$x(\text{N}_2) = \frac{4 \text{ mol}}{1 \text{ mol}} = 4 \text{ aldiz}$$

$$x(\text{H}_2) = \frac{7 \text{ g}}{6 \text{ g}} = 1,17 \text{ aldiz} \quad \rightarrow \text{HIDROGENOA MUGATZAILA}$$

3. Kalkulatu zenbat gramo amoniako lortuko diren

$$m(\text{NH}_3) = 7 \text{ g H}_2 \times \frac{34 \text{ g NH}_3}{6 \text{ g H}_2} = 39,7 \text{ g NH}_3$$

4. Kalkulatu zenbat errektibo geratuko den soberan

$$n(\text{N}_2) = 7 \text{ g H}_2 \times \frac{1 \text{ mol N}_2}{6 \text{ g H}_2} = 1,17 \text{ mol N}_2 \text{ kontsumitu dira}$$

$$n(\text{N}_2) = 4 \text{ mol N}_2 - 1,17 \text{ mol N}_2 = 2,83 \text{ mol N}_2 \text{ soberan}$$

5. Erreakzioa 4 litroko ontzian egin bada, 27 °C-tan, kalkulatu hasierako eta amaierako presio totalak

$$\text{Hasieran: } n_T = n(\text{N}_2) + n(\text{H}_2) = 4 \text{ mol} + \frac{7 \text{ g H}_2}{2 \text{ g H}_2/\text{mol}} = 7,5 \text{ mol}$$

$$P_T = \frac{nRT}{V} = \frac{7,5 \text{ mol} \times 0,082 \text{ atm}\cdot\text{L}/\text{K}\cdot\text{mol} \times 300 \text{ K}}{4 \text{ L}} = 46,1 \text{ atm}$$

$$\text{Bukaeran: } n_T = n(\text{N}_2) + n(\text{NH}_3) = 2,83 \text{ mol} + \frac{39,7 \text{ g}}{17 \text{ g/mol}} = 5,17 \text{ mol}$$

$$P_T = \frac{nRT}{V} = \frac{5,17 \text{ mol} \times 0,082 \text{ atm}\cdot\text{L}/\text{K}\cdot\text{mol} \times 300 \text{ K}}{4 \text{ L}} = 31,8 \text{ atm}$$

DATUAK

Masa atomikoak: H=1; N=14

R=0,082 atm.L/(K.mol)