

Substantzia kantitatea

Substantzia baten **mol bat** substantzia horren **masa molekularra** da, **gramotan** adierazita. Substantzia ororen mol batean substantzia horren **$6,022 \cdot 10^{23}$ (NA)** **molekula** daude.

Erabili taula periodikoa masa molarrek kalkulatzeko eta hurrengo ariketak egiteko.

Avogrado zenbakia denean idatzi "NA".

Eta hamarren berredurak idazteko jarraitu adibidea: $10^{23} \rightarrow 10e23$

1. Zenbat gramo dira 0,25 mol aluminio?

$$0,25 \text{ mol Al} = \quad \text{mol Al} \cdot \frac{g \text{ Al}}{1 \text{ mol Al}} = \quad g \text{ Al}$$

2. Zenbat atomo dira 0,5 mol aluminio?

$$0,5 \text{ mol Al} = \quad \text{mol Al} \cdot \frac{\text{atomo Al}}{1 \text{ mol Al}} = \quad \text{atomo Al}$$

3. Zenbat mol dira $5 \cdot 10^{24}$ aluminio atomo?

$$5 \cdot 10^{24} \text{ atomo Al} = \quad \text{atomo Al} \cdot \frac{1 \text{ mol Al}}{\text{atomo Al}} = \quad \text{mol Al}$$

4. Zenbat mol kaltzio dira 125g kaltzio?

$$125g \text{ Ca} = \quad g \text{ Ca} \cdot \frac{1 \text{ mol Ca}}{g \text{ Ca}} = \quad \text{mol Ca}$$

5. Zenbat kaltzio atomo daude 75g kaltziotan?

$$75g \text{ Ca} = \quad g \text{ Ca} \cdot \frac{1 \text{ mol Ca}}{g \text{ Ca}} \cdot \frac{\text{atomo Ca}}{1 \text{ mol Ca}} = \quad \text{atomo Ca}$$

6. Zenbat gramo dira $1,2 \cdot 10^{24}$ atomo kaltzio?

$$1,2 \cdot 10^{24} \text{ atomo Ca} \cdot \frac{1 \text{ mol Ca}}{\text{atomo Ca}} \cdot \frac{g \text{ Ca}}{1 \text{ mol Ca}} = \quad \text{g Ca}$$

7. Zenbat amoniako dago, moletan, $3,02 \cdot 10^{23}$ NH_3 molekulatan? Zenbat gramo NH_3 -ri dagokio?

$$M(\text{NH}_3) = 1 \cdot \quad + 3 \cdot \quad = \quad \text{g/mol}$$

$$3,02 \cdot 10^{23} \text{ molekula NH}_3 = 3,02 \cdot 10^{23} \text{ molekula NH}_3 \cdot \frac{1 \text{ mol NH}_3}{\text{molekula NH}_3} =$$

$$= \quad \text{mol NH}_3$$

$$\text{mol NH}_3 \cdot \frac{g \text{ NH}_3}{1 \text{ mol NH}_3} = \quad \text{g NH}_3$$

8. 85g azido sulfhidriko lagin batean:

$$M(\text{H}_2\text{S}) = 2 \cdot \quad + 1 \cdot \quad = \quad \text{g/mol}$$

a. Zenbat H_2S dago, moletan?

$$85 \text{ g H}_2\text{S} = 85 \text{g H}_2\text{S} \cdot \frac{1 \text{ mol H}_2\text{S}}{g \text{ H}_2\text{S}} = \quad \text{mol H}_2\text{S}$$

b. Zenbat molekula?

$$\text{mol H}_2\text{S} \cdot \frac{\text{molekula H}_2\text{S}}{\text{mol H}_2\text{S}} = \quad \text{molekula H}_2\text{S}$$

9. 2 mol uretan:

$$M(H_2O) = 2 \cdot \quad + 1 \cdot \quad = \quad \text{g/mol}$$

a. Zenbat gramo ur daude?

$$2 \text{ mol } H_2O = 2 \text{ mol } H_2O \cdot \frac{g \text{ } H_2O}{1 \text{ mol } H_2O} = \quad \text{g } H_2O$$

b. Zenbat molekula?

$$2 \text{ mol } H_2O = 2 \text{ mol } H_2O \cdot \frac{\text{molekula } H_2O}{1 \text{ mol } H_2O} = \quad \text{molekula } H_2O$$

10. $3 \cdot 10^{22}$ fosfano molekulatan:

$$M(PH_3) = 1 \cdot \quad + 3 \cdot \quad = \quad \text{g/mol}$$

a. Zenbat mol fosfano daude?

$$3 \cdot 10^{22} PH_3 = 3 \cdot 10^{22} PH_3 \cdot \frac{1 \text{ mol } PH_3}{\text{molekula } PH_3} = \quad \text{mol } PH_3$$

b. Zenbat gramo?

$$\text{mol } PH_3 \cdot \frac{g \text{ } PH_3}{1 \text{ mol } PH_3} = \quad \text{g } PH_3$$