



PERCENT COMPOSITION (HYDRATES) PRACTICE #2

Either name or write for the following for each hydrate:

#	Name of Hydrate	Chemical Formula
Eg.	copper(II)sulfate pentahydrate	$\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$
1	magnesium hepta hydrate	$\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$
2	sodium carbonate decahydrate	$\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$
3	Magnesium hexahydrate	$\text{MgCl}_2 \cdot 6\text{H}_2\text{O}$
4	barium chloride dihydrate	$\text{BaCl}_2 \cdot 2\text{H}_2\text{O}$
5	Cadmium (II) Nitrate tetrahydrate	$\text{Cd}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$
6	Zinc chloride hexahydrate	$\text{ZnCl}_2 \cdot 6\text{H}_2\text{O}$
7	zinc sulfate heptahydrate	$\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$
8	lithium chloride tetrahydrate	$\text{LiCl} \cdot 4\text{H}_2\text{O}$
9	Sodium thiosulfate pentahydrate	$\text{Na}_2\text{S}_2\text{O}_3 \cdot 5\text{H}_2\text{O}$
10	cobalt(II)chloride hexahydrate	$\text{CoCl}_2 \cdot 6\text{H}_2\text{O}$

Calculate the % of water for #2

$$\begin{array}{r} \text{Na}_2\text{CO}_3 \quad 10\text{H}_2\text{O} \\ \hline \downarrow \\ 106 \end{array} \quad \begin{array}{r} 10 \cdot 18 = 180 \\ \hline \end{array}$$

$$\frac{180}{286} \times 100 = 62\%$$

Calculate the % of water for #3

$$\begin{array}{r} \text{MgCl}_2 \cdot 6\text{H}_2\text{O} \\ \hline 95 \end{array} \quad \begin{array}{r} 6 \cdot 18 = 108 \\ \hline \end{array}$$

$$\frac{108}{203} \times 100 = 53.1\%$$

Calculate the % of water for #4

$$\begin{array}{r} \text{BaCl}_2 \cdot 2\text{H}_2\text{O} \\ \hline 206 \quad 36 \end{array}$$

$$\frac{36}{206} \times 100 = 17.4\%$$

Calculate the % of N for #5

Calculate the % of Zn for #6

Calculate the % of S for #7