

SHOW ALL WORK, ALL EQUATIONS, ALL UNITS - EVEN ANSWERS

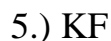
FIND THE MOLAR MASS:



2.) $\text{Ni}_2(\text{C}_2\text{O}_4)_3 = (2)(58.93 \text{ g}) + (6)(12.01 \text{ g}) + (12)(16.00 \text{ g}) = 381.92 \text{ grams / mol}$

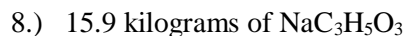
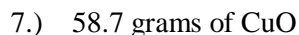


4.) $\text{C}_6\text{H}_{12}\text{O}_6 = (6)(12.01 \text{ g}) + (12)(1.008 \text{ g}) + (6)(16.00 \text{ g}) = 180.156 \text{ grams / mol}$

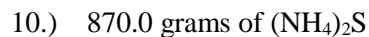
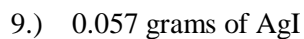


6.) $\text{KMnO}_4 = (39.10 \text{ g}) + (54.94 \text{ g}) + (4)(16.00 \text{ g}) = 158.04 \text{ grams / mol}$

FIND THE NUMBER OF MOLES IF ONE HAS:



$$\frac{15.9 \text{ kg NaC}_3\text{H}_5\text{O}_3}{1 \text{ kg}} \times \frac{1000 \text{ g}}{1 \text{ kg}} \times \frac{1 \text{ mol NaC}_3\text{H}_5\text{O}_3}{112.06 \text{ grams}} = 142 \text{ mol NaC}_3\text{H}_5\text{O}_3$$



$$\frac{870.0 \text{ g } (\text{NH}_4)_2\text{S}}{68.144 \text{ grams}} \times \frac{1 \text{ mol } (\text{NH}_4)_2\text{S}}{68.144 \text{ grams}} = 12.8 \text{ mol } (\text{NH}_4)_2\text{S}$$

FIND THE NUMBER OF MOLECULES IF ONE HAS:

11.) 7.2 moles of N_2O

12.) 12.03 kilograms of H_2SO_4

$$\frac{12.03 \text{ kg}}{1 \text{ kg}} \times \frac{1000 \text{ g}}{1 \text{ kg}} \times \frac{1 \text{ mol } H_2SO_4}{98.076 \text{ g}} \times \frac{6.02 \times 10^{23} \text{ molecules}}{1 \text{ mol } H_2SO_4} = 7.38 \times 10^{25} \text{ molecules}$$

13.) 351.0 grams of $MoCl_5$

FIND THE NUMBER OF ATOMS IF ONE HAS:

14.) 5.34×10^{27} molecules of Hg_2Br_2

$$\frac{5.34 \times 10^{27} \text{ molecules}}{1 \text{ molecule } Hg_2Br_2} \times \frac{4 \text{ atoms}}{1 \text{ molecule } Hg_2Br_2} = 2.14 \times 10^{28} \text{ atoms}$$

15.) 79.54 grams of Ta_2O_5

16.) 4.87 kilograms of HgF_2

$$\frac{4.87 \text{ kg}}{1 \text{ kg}} \times \frac{1000 \text{ g}}{1 \text{ kg}} \times \frac{1 \text{ mol } HgF_2}{238.59 \text{ g}} \times \frac{6.02 \times 10^{23} \text{ molecules}}{1 \text{ mol } HgF_2} \times \frac{3 \text{ atoms}}{1 \text{ molecule } HgF_2} = 3.67 \times 10^{25} \text{ atoms}$$

17.) 9.42 moles of KCl