

Name \_\_\_\_\_

Mole Review

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- \_\_\_\_\_ 1) What is the gram-formula mass of  $\text{Ca}_3(\text{PO}_4)_2$  ?  
1) 248 g/mol      2) 263 g/mol      3) 279 g/mol      4) 310. g/mol
- \_\_\_\_\_ 2) What is the gram formula mass of  $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$ ?  
1) 106 g      2) 142 g      3) 266 g      4) 286 g
- \_\_\_\_\_ 3) What is the total number of oxygen atoms in the formula  $\text{MgSO}_4 \cdot 7 \text{H}_2\text{O}$ ?  
1) 11      2) 7      3) 5      4) 4
- \_\_\_\_\_ 4) What is the total number of moles of hydrogen atoms contained in 1 mole of  $(\text{NH}_4)_2\text{C}_2\text{O}_4$ ?  
1) 6      2) 2      3) 8      4) 4
- \_\_\_\_\_ 5) Which sample contains a mole of atoms?  
1) 23 g Na      2) 24 g C      3) 42 g Kr      4) 78 g K
- \_\_\_\_\_ 6) How many molecules are contained in 127 grams of iodine ( $\text{I}_2$ )?  
1)  $1.50 \times 10^{23}$       2)  $3.01 \times 10^{23}$       3)  $9.03 \times 10^{23}$       4)  $12.4 \times 10^{23}$
- \_\_\_\_\_ 7) What is the volume, in liters, of 576 grams of  $\text{SO}_2$  gas?  
1) 101      2) 202      3) 216      4) 788
- \_\_\_\_\_ 8) What is the percent composition by mass of nitrogen in  $\text{NH}_4\text{NO}_3$  (gram-formula mass = 80.0 grams/mole)?  
1) 17.5%      2) 35.0%      3) 52.5%      4) 60.0%
- \_\_\_\_\_ 9) A hydrated salt is a solid that includes water molecules within its crystal structure. A student heated a 9.10-gram sample of a hydrated salt to a constant mass of 5.41 grams. What percent by mass of water did the salt contain?  
1) 3.69%      2) 16.8%      3) 40.5%      4) 59.5%
- \_\_\_\_\_ 10) The percent by mass of water in the hydrate  $\text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O}$  is closest to  
1) 18%      2) 44%      3) 56%      4) 76%
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