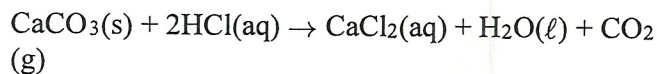


Name: \_\_\_\_\_

## Stoich Review

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1. Which sample contains a mole of atoms?
- A) 23 g Na                      B) 24 g C  
C) 42 g Kr                      D) 78 g K
2. What is the total mass in grams of 0.75 mole of SO<sub>2</sub>?
- A) 16 g   B) 24 g   C) 32 g   D) 48 g
3. The empirical formula of a compound is CH<sub>3</sub>. The molecular formula of this compound could be
- A) CH<sub>4</sub>   B) C<sub>2</sub>H<sub>4</sub>   C) C<sub>2</sub>H<sub>6</sub>   D) C<sub>3</sub>H<sub>6</sub>
4. What is the percent composition by mass of sulfur in the compound MgSO<sub>4</sub> (gram-formula mass = 120. grams per mole)?
- A) 20%   B) 27%   C) 46%   D) 53%
5. Given the balanced equation:



What is the total number of moles of CO<sub>2</sub> formed when 20. moles of HCl is completely consumed?

- A) 5.0 mol                      B) 10. mol  
C) 20. mol                      D) 40. mol
6. Given the unbalanced equation:
- $$\text{--- Al}(\text{s}) + \text{--- O}_2(\text{g}) \rightarrow \text{--- Al}_2\text{O}_3(\text{s})$$
- When this equation is correctly balanced using smallest whole numbers, what is the coefficient of O<sub>2</sub> (g)?
- A) 6      B) 2      C) 3      D) 4
7. What is the total number of moles of sulfur atoms in 1 mole of Fe<sub>2</sub>(SO<sub>4</sub>)<sub>3</sub>?
- A) 1      B) 15      C) 3      D) 17
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## Stoich Review

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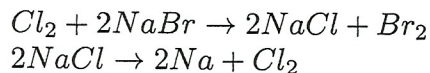
8. A hydrate is a compound that includes water molecules within its crystal structure. During an experiment to determine the percent by mass of water in a hydrated crystal, a student found the mass of the hydrated crystal to be 4.10 grams. After heating to constant mass, the mass was 3.70 grams. What is the percent by mass of water in this crystal?

- A) 90.0%                      B) 11%  
C) 9.8%                        D) 0.40%

9. A substance has an empirical formula of  $\text{CH}_2$  and a molar mass of 56 grams per mole. The molecular formula for this compound is

- A)  $\text{CH}_2$    B)  $\text{C}_4\text{H}_6$    C)  $\text{C}_4\text{H}_8$    D)  $\text{C}_8\text{H}_4$

10. Given the balanced equations representing two chemical reactions:



Which type of chemical reactions are represented by these equations?

- A) single replacement and decomposition  
B) single replacement and double replacement  
C) synthesis and decomposition  
D) synthesis and double replacement
-