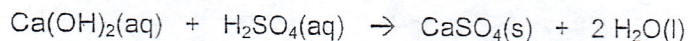


Name: \_\_\_\_\_  
Hour: \_\_\_\_\_ Date: \_\_\_\_\_

## Chemistry: *Molarity and Stoichiometry*

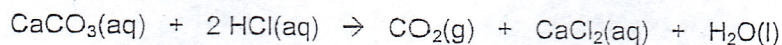
Directions: Using the definition of molarity, the given balanced equations, and stoichiometry, solve the following problems. Show your work and include units for full credit.

1. Calcium hydroxide ("slaked lime") and sulfuric acid react to produce calcium sulfate and water according to the following balanced equation:



- How many liters of 0.5 M calcium hydroxide do you need in order to have 5.5 moles of calcium hydroxide?
- Find the number of moles of sulfuric acid needed to react with 5.5 moles of calcium hydroxide.
- If the sulfuric acid has a concentration of 0.82 M, how many liters of it are needed to react with 5.5 moles of calcium hydroxide?

2. Calcium carbonate ("limestone") reacts with hydrochloric acid according to the following balanced equation:



- What mass of calcium carbonate is needed to make 1.2 liters of a 1.7 M calcium carbonate solution?
- What volume of 3.0 M hydrochloric acid is needed to completely react with the amount of calcium carbonate in Part 2a above?
- Based on Parts 2a and 2b above, how many moles of water would be produced?