Ch5/ PowerPoint Study-4Gases-Gas Stoichiometry ___ Name:_____

Answer these questions as you are watching the videos. They are due in class.
These questions are not just for you to answer but also to prepare you for the exam.
Make sure you understand what you are writing and not just copy from the text book. **Show all work.**

1) What volume of ammonia gas, measured at 660.3 mmHg and 58.2°C, is required to produce 6.46 g of ammonium sulfate according to the following balanced chemical equation? (ans: 3.07 L)

$$2NH_3(g) + H_2SO_4(aq) \longrightarrow (NH_4)_2SO_4(s)$$

Strategy:

a) Calculate the mols of ammonium sulfate.

b) What is the mol ratio of ammonium sulfate to ammonia?

c) Use the mols from (b) to substitute in the ideal gas law to find volume of ammonia gas.

2) What grams of $CaCO_3$ will produce 34.8 L volume of CO_2 gas at 645 torr and 800 K according to the equation $CaCO_3(s) \rightarrow CaO(s) + CO_2(g)$? (ans: 45 g)

Strategy:

a) Use the ideal gas law to find the mols of carbon dioxide.

b) Find the mol ratio of carbon dioxide to calcium carbonate.

c) Find the grams in mols of calcium carbonate from (b).

(We will do "gases over water" in class practice)