

CHM 103 EXAM I

Show all calculations with units and proper number of significant figures! Write in clear and complete sentences. Turn in the take-home component with this exam. GOOD LUCK!!!

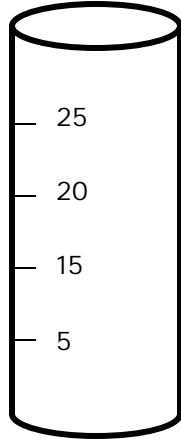
1. Consider the results of the antacid table analysis that are given below. Supply the missing information. (20)

	CaCO ₃	Mg(OH) ₂
Label Value	500 mg	311 mg
Trial 1	480 mg	310 mg
Trial 2	472	321
Trial 3	475	306
Trial 4	465	312
Trial 5	482	314
Mean		
Std. Deviation		
% CV		
%Error		

Comment on the accuracy and precision of the two sets of analyses. Which one is more precise? Which one is more accurate? Justify your choices. (10)

What does the sign of the percent error tell you? (5)

2. Here is a 25-mL graduated cylinder purchased from the Acme Supply Co. It is supposed to be calibrated to every 5 mL. If the device shown is used in an experimental procedure, an error will occur.



What is the error? Explain. (5)

Will it influence the accuracy and/or the precision of the experiment? Explain (5)

3. Explain the results for the graduated cylinder on the scatter plot given below. (This one is calibrated correctly.) (5)

