

Chem 103 (Rohde)  
Chapters 3 & 4  
Skills Check #1 (Graded Assignment)

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

Due Date: 10 - 12 - 2017

Directions: Answer each of the following. Be sure to show your work or set-up for any problems! Numerical answers should be given in the correct number of significant figures and include units.

1. A Chem 103 Student is given a sample of  $\text{Co}(\text{NO}_3)_3$  and asked to prepare a solution that will then be reacted with another solution.

a) What is the **name** of  $\text{Co}(\text{NO}_3)_3$  ? \_\_\_\_\_

b) Calculate the **molar mass** of  $\text{Co}(\text{NO}_3)_3$ . (Carry two decimal places.)

Answer: \_\_\_\_\_

c) Calculate the number of **grams** of  $\text{Co}(\text{NO}_3)_3$  that will be needed to prepare 250.0 mL of a 1.50 M solution.

Answer: \_\_\_\_\_

d) Water is added to the student's solution to bring the total volume to 750.0 mL. What is the **concentration** (in molarity) of the diluted solution?

Answer: \_\_\_\_\_

e) Write a balanced molecular equation *and* a balanced net ionic equation for the reaction that occurs when the student's solution is mixed with a solution of  $\text{Na}_2\text{CO}_3$ .

MOLECULAR  
EQUATION:

NET IONIC  
EQUATION: