Name_____

Report

Section _____

Unknown #_____

DATA

	Trail 1	Trail 2	Trail 3
1. $Mass_{container + unknown}$	_____g	_____g	_____g
2. $Mass_{container}$	_____g	_____g	_____g
3. $Mass_{unknown}$	_____g	_____g	_____g
4. $Volume_{unknown}$	10.00__ mL	10.00__ mL	10.00__ mL
5. Calculated density	_____ g/mL	_____ g/mL	_____ g/mL

6. Average density _____ g/mL

SHOW YOUR CALCULATIONS HERE:
(If your precision or accuracy is poor, give possible reasons for unsatisfactory results).

True Value*_____

Absolute Error _____

*Obtain from instructor

Percent Error _____

Name_____

Questions

1. What happens to the experimental value of the density of the salt solution as a result of the following errors (will the value found be too high, too low or unchanged?)? EXPLAIN YOUR ANSWERS!

   (a) Forgetting to rinse the pipet with the unknown solution after it has been rinsed with distilled water.

   (b) Failure to tip the hanging drop from the pipet into the Erlenmeyer flask containing the unknown solution.

   (c) Blowing the last bit of liquid from the pipet into the Erlenmeyer flask containing the unknown solution.

   (d) Failure to notice that the balance is set at 0.050 g instead of 0.000 g before the empty flask is put on the pan. When the flask plus sample is weighed the balance is set at 0.000 g.

2. Why is it necessary to weigh the Erlenmeyer flask just before each sample is pipetted into the flask instead of just at the beginning of the first trial?

Name_____

Problems

(ANSWERS MUST HAVE THE CORRECT NUMBER OF SIGNIFICANT FIGURES AND THE CORRECT UNITS!! YOU MUST SHOW YOUR METHOD OF SOLUTION!)

1. If 20.00 mL of a liquid has a mass reading of 22.104 g, what is the density?

_____

2. What is the mass in grams of 30.0 mL of a liquid of density 0.932 g/mL?

_____

3. How many mL of a liquid that has a density of 1.28 g/mL are needed to obtain 40.0 g of the liquid?

_____

4. How many grams of NH_3 are contained in 50.0 mL of a solution that is 22.0% by mass NH_3 and has a density of 0.916 g/mL?

_____

5. How many mL of concentrated HCl solution are needed to provide 90.0 g of HCl? Concentrated HCl is 37.0% HCl by mass and has a density of 1.19 g/mL.

_____