Name(s): _____ **15 Pts.**

Honors Chemistry Lab: Sugar Content in Beverages

I. Purpose: To determine the sugar content of a beverage using its density and comparing the density to a standard calibration curve

II. Procedure:

1. Obtain a clean, dry 50-ml beaker and a 10-ml transfer pipet with a bulb.
2. Place the beaker on a balance and tare the beakers weight.
3. Pipet 10.0 ml of a sugary drink and transfer the liquid into the beaker.
4. Record the mass and volume.
5. Repeat with two other sugary drinks.

III. Analysis:

Data and Observations:

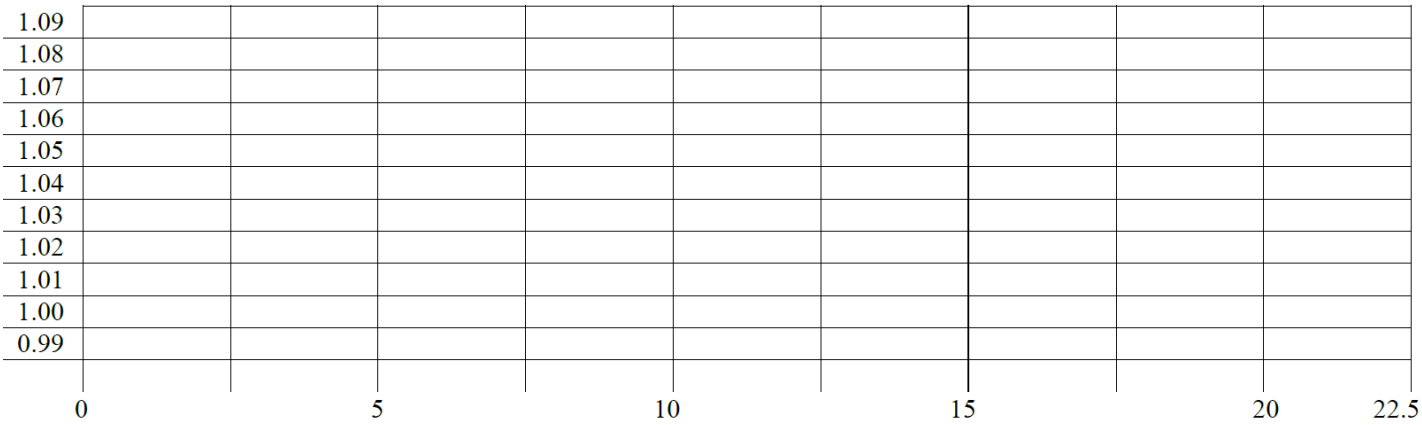
All data must have proper sig figs and units.

Brand Name			
Brand's Percent Sugar $\frac{mass\ sugar}{ml\ liquid} x100 =$ **(per serving) This is the theoretical value.**			
Mass of Liquid			
Volume of Liquid			
Density of Liquid			

Graph:

Plot the following pairs of points on the grid below. Use a ruler to sketch a best fit line. This is the Standard Curve.

Percent Sugar	**1%**	**5%**	**10%**	**15%**	**20%**
Density at 20 °C	1.002 g/mL	1.018 g/mL	1.038 g/mL	1.059 g/mL	1.081 g/mL



Calculations: Show all work with Sig Figs and Units

a.) Calculate the equation for the slope of the standard curve. Y= mX + b

b.) From the slope of the standard curve and your measured density calculate the percent sugar and percent error of each drink.

Brand 1	Brand 2	Brand 3
Percent Error:	Percent Error:	Percent Error:

IV. Conclusion Questions:

a.) What assumption is made about the sugar content analysis?

b.) Many sugary beverages are carbonated, If all of the carbonation was not expelled how would that effect the density of the liquid? What gas is used to carbonate beverages?