CH 221
Sample Quiz #1 Name: _____ Lab Section: _____

Be sure to show all work, use the correct number of significant figures, circle final answers and use correct units in all problems.

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1. Calculate these expressions. Include the correct number of significant figures and units in the answer. (4 points)

   $(9.994\ g - 8.33\ g) / (1.44\ cm^3 - 0.536\ cm^3)$ _____

   $(9.16 * 10^{+3}\ mL) * (2.3411 * 10^{-6}\ g) / 12.001 * 10^{-3}\ g$ _____

2. Convert 892.0 ˚C to K. (4 points)

3. Density Problem (8 points)

   a. Calculate the density of "substance A" when its mass = 11.22 g and its volume is 0.244 cm^3. Express the density in units of g / mm^3.

   b. It costs 10.79 cents to make 11.4 cm^3 of "substance A". Calculate how much it would cost to make 8.91 pounds of "substance A" in units of $. (1 pound = 453.59237 g; 100 cents = 1 $)

4. Differentiate between chemical and physical properties. Give at least one example of each. (4 points)

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Sample Quiz #1 Name: _____ Lab Section: _____
Answers

1. Calculate these expressions. Include the correct number of significant figures and units in the answer. (4 points)

   1.8 g/cm^3

   1.79 mL

2. Convert 892.0 ˚C to K. (4 points)

   1165.2 K

3. Density Problem (8 points)

   a. Calculate the density of "substance A" when its mass = 11.22 g and its volume is 0.244 cm^3. Express the density in units of g / mm^3.

      4.60 x 10^{-2} g/mm^3

   b. It costs 10.79 cents to make 11.4 cm^3 of "substance A". Calculate how much it would cost to make 8.91 pounds of "substance A" in units of $. (1 pound = 453.59237 g; 100 cents = 1 $)

      $0.832

4. Differentiate between chemical and physical properties. Give at least one example of each. (4 points)

chemical properties change the relationship with atoms on an atomic scale and are generally irreversible. (reactions with other elements/compounds)

physical properties do not change the relationship within the atoms are can be reversible. (melting, boiling, magnetism)