Chemistry 141 Name

Dr. Cary Willard

Quiz 1a (20 points) January 27, 2011

All work must be shown to receive credit.

1. (5 points) What is wrong with the expression, “That is just a theory” if by theory you mean a scientific theory?
2. (5 points) Classify each of the following as a pure substance or a mixture. If it is a pure substance, classify it as an element or a compound. If it is a mixture, classify it as homogenous or heterogeneous. Justify your choices.
   1. Beach Sand
   2. Sucrose (Table Sugar)
3. (5 points) The Toyota Prius, a hybrid electric vehicle has an EPA gas mileage rating of 52 mi/gal in the city. How many kilometer can the Prius travel on 63.0 L of gasoline?
4. (5 points) The density of mercury is 13.6 g/mL. If a fish tank with a volume 2.00 ft3 were filled with mercury, calculate the mass(in lb) of mercury in the fish tank. (Would you be able to lift the tank?)

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2. (5 points) Classify each of the following as a pure substance or a mixture. If it is a pure substance, classify it as an element or a compound. If it is a mixture, classify it as homogenous or heterogeneous. Justify your choices.
   1. Ranch Dressing
   2. Sucrose (Table Sugar)
3. (5 points) The Toyota Prius, a hybrid electric vehicle has an EPA gas mileage rating of 52 mi/gal in the city. How many kilometer can the Prius travel on 47.0 L of gasoline?
4. (5 points) The density of mercury is 13.6 g/mL. If a fish tank with a volume 3.00 ft3 were filled with mercury, calculate the mass (in lb)of mercury in the fish tank. (Would you be able to lift the tank?)