Chemistry 141 Name

Dr. Cary Willard

Quiz 1a (20 points) August 27, 2012

1. (4 points) Classify each substance as a pure substance or a mixture. If it is a mixture, classify it as homogenous or heterogeneous.
   1. Carbon dioxide
   2. Orange juice
2. (4 points) Acetone (nail polish remover) has a density of 0.7857 g/mL. What is the volume, in L, of 3.53 kg of acetone?
3. (6 points) A sample of gaseous neon atoms contains 3.41 x 1022 atoms per liter. The atomic radius of neon is 69 pm. What fraction of the space is occupied by the atoms themselves? (1 m = 1012 pm, 1 mL = 1 cm3, volume of a sphere = 4/3 r3)
4. (6 points) On the Grossmont temperature scale, water freezes at 47oG and boils at 265oG. Convert 38oC to oG.

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Quiz 1b (20 points) August 27, 2012

1. (4 points) Classify each substance as a pure substance or a mixture. If it is a mixture, classify it as homogenous or heterogeneous.
   1. Beach sand
   2. Acetic acid
2. (4 points) Acetone (nail polish remover) has a density of 0.7857 g/mL. What is the volume, in L, of 6.22 kg of acetone?
3. (6 points) A sample of gaseous neon atoms contains 5.33 x 1022 atoms per liter. The atomic radius of neon is 69 pm. What fraction of the space is occupied by the atoms themselves? (1 m = 1012 pm, 1 mL = 1 cm3, volume of a sphere = 4/3 r3)
4. (6 points) On the Grossmont temperature scale, water freezes at 47oG and boils at 265oG. Convert 48oC to oG.