

Quiz Two  
Chemistry 121/100 FGH

Name\_\_\_\_\_

1. Carry out the following metric to metric conversions: (3 pts)
  - a. 48.5 mL to Liters
  - b. 0.00712 g to mg
  - c. 1.47 kg to grams
2. Carry out the following English to metric conversions using the conversion factors below: (3 pts)
  - a. 14.9 oz to grams (453.6 g = 1.00 lb)
  - b. 5 ft 6.5 inches to meters (2.54 cm = 1.00 inch)
  - c. 42.0 feet to meters (2.54 cm = 1.00 inch)
3. Carry out the following metric to English conversions using the conversion factors below: (6 pts)
  - a. 709 cm to feet (2.54 cm = 1.00 inch)
  - b. 65 cm<sup>3</sup> to fluid ounces (8oz = 1cup, 4cups = 1quart and 1.06 qt = 1.00 L)
  - c. 989 g to ounces (16 oz = 1 lb, 2.205 lb = 1.000 kg)
4. Solve the following density problems: (6 pts)
  - a. Mercury has a density of 13.5 g/mL. What volume in liters would be occupied by 5.00 lbs of mercury (453.6 g = 1.00 lb)
  - b. The density of air is 1.2 kg/m<sup>3</sup>. What is the mass in kg of the air in a room that is 3.0 meters from floor to ceiling and 4.0 meters wide and 5.0 meters long?
  - c. An empty graduated cylinder has a mass of 31.856 grams. 24.7 mL of an unknown liquid are placed into the graduated cylinder giving the container with the liquid a mass of 50.035 grams. Calculate the density of the unknown liquid.
5. Perform the temperature conversions indicated: (2 pts)
  - a. 56.7 °F to °C
  - b. -35 °C to °F

Temperature conversions use the relationship  $^{\circ}\text{C} = (^{\circ}\text{F} - 32.0)/1.8$  and its inverse.