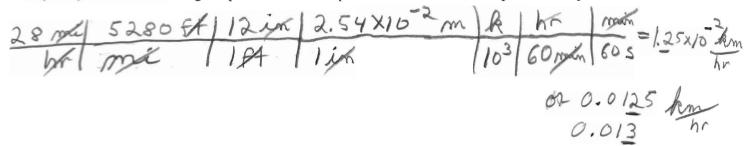
CHM 151	Quiz 1a	25 Pts	Spring 2008	Name:	Key

Conversion factors: $k = 10^3 \ c = 10^{-2} \ m = 10^{-3} \ \mu = 10^{-6} \ n = 10^{-9} \ hr = 60 \ min. \ 1 \ min = 60 \ sec.$

1 mile = 5280 ft 1 ft = 12 inches 2.54 cm = 1 inch

****SHOW ALL WORK TO RECEIVE CREDIT****

1. (6 Pts) A car is traveling at speed of 28 miles per hour. Determine its speed in km per second.



2. (5 Pts) Determine how many micro (u) inches there are in 427 milli inches.

$$\frac{427 \text{ oc in}}{\sqrt{9}} \frac{10^{-3}}{10^{-6}} = 427000 = 4.27 \times 10^{5} \text{ m in}$$

3. (5 Pts) How many meters (expressed in scientific notation with no prefixes) are in 43 centi milli micro meters?

4. (5 Pts) A car has 3.0 liter engine. Determine its displacement volume in cubic inches? $|mL = |cm^3| = |x/0^{-3}| \quad \text{or} \quad |000 \text{ mL}| = |L|$

5. (4 Pts) An ore sample was found to contain 0.45 % Au by mass. How many grams of Au can be recovered from 250 kg of ore?

CHM 151 Quiz 1b 25 Pts Spring 2008 Name: Key

Conversion factors: $k = 10^3$ c = 10^{-2} m = 10^{-3} $\mu = 10^{-6}$ n = 10^{-9} hr = 60 min. 1 min = 60 sec. 1 mile = 5280 ft 1 ft = 12 inches 2.54 cm = 1 inch

****SHOW ALL WORK TO RECEIVE CREDIT****

1. (6 Pts) A car is traveling at speed of 43 miles per hour. Determine its speed in cm per second.

2. (5 Pts) Determine how many micro (µ) inches there are in 107 milli inches.

$$\frac{107 \text{ m/m}}{\text{m}} \frac{10^{-3} \text{ M}}{10^{-6}} = 1.07 \times 10^{5} \text{ M in}$$

3. (5 Pts) How many meters (expressed in scientific notation with no prefixes) are in 873 centi milli micro meters?

$$873 \text{ cm} \text{ meters}$$

 $873 \times 16^{3} \times 10^{-6} \text{ meters} = 873 \times 10^{-11} = 8.73 \times 10^{-9} \text{ m}$

4. (5 Pts) A car has 4.0 liter engine. Determine its displacement volume in cubic inches?

$$\frac{4.0 \times |1000 \text{ mox}| |1 \text{ cm}^3| |1^3 \text{ in}^3}{|1 \text{ II}} = 244 \text{ in}^3} = 240 \text{ in}^3$$

$$\frac{4.0 \times |10^{-3}| |1 \text{ cm}^3| |1^3 \text{ in}^3}{|10^{-3}| |1 \text{ mox}| |2.54^3 \text{ cm}^3} = 244 \text{ in}^3$$

5. (4 Pts) An ore sample was found to contain 0.65 % Au by mass. How many grams of Au can be recovered from 350 kg of ore?

$$\frac{350 \times 10^{3} \text{ gove } \left[0.65 \text{ Au} \right]}{100 \text{ g/e}} = 2275 \text{ g Au} \Rightarrow 2300 \text{ g Au}$$

$$0.65 \text{ Au} = 2275 \text{ g Au} \Rightarrow 2300 \text{ g Au}$$