CHM 151 Quiz la 25 Pts Spring 2015 Name:

Show All Work To Receive Credit! Conversion factors and prefixes:

 $G = 10^9$, $M = 10^6$, $k = 10^3$, $c = 10^{-2}$, $m = 10^{-3}$, $\mu = 10^{-6}$, $n = 10^{-9}$ p = 10^{-12} , 2.54 cm = 1 in, 12 in = 1 ft, 5280 ft = 1 mile, 3 feet = 1 yd, 60 sec = 1 min, 1 hr = 60 min, 4 quarts = 1 gal, 2 pints = 1 quart

1. (6 Pts) Perform each of the following conversions. You must show the complete setup.

a. Convert 1055 ng to pg. $\frac{|055 \text{ m}|10^{-9}|P}{|10^{-12}} = \frac{|055 \times 10^{3} Pg}{|055 \times 10^{6} Pg}$ b. Convert 898 µL to mL. $\frac{898 \text{ mL}}{|10^{-6}|m} = \frac{1055 \times 10^{6} Pg}{|055 \times 10^{6} Pg}$

2. (4 Pts) Assume each of following numbers are measurements. Perform the indicated operations and then report the answer with the **proper number of significant figures**.

3 sig fligs a. $\frac{(23.8+87)}{(14.8x18.73)}$ 0.400 $\frac{23.8}{112.8} + \frac{87}{112.8} = 3$ sig fig. b. 10.25 cm x 2.10 cm x 18.195 cm = 392 cm³

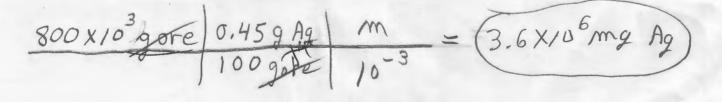
3. (5 Pts) A poster measures 24 in by 35 in. Determine its area in square centimeters (cm²) (you may ignore significant figures on this one).

$$\frac{A = 1.00}{24 in 35 in 2.54^{2} cm^{2}} = 5419 cm^{2}$$

4. (5 Pts) A car is traveling at a rate of 75 miles per hour. Determine its speed in kilometers per <u>minute</u>. (You may ignore significant figures)?

$$\frac{75 \text{ min}}{\text{br} 1 \text{ min}} = 2.012 \text{ hm}}{1.84} = 2.012 \text{ hm}}$$

5. (5 Pts) A sample of silver ore was found to contain 0.45 % silver by mass. How many mg of silver can be recovered 800.0 kg of ore?



CHM 151 Quiz 1b 25 Pts Spring 2015 Name: K

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 $G = 10^9$, $M = 10^6$, $k = 10^3$, $c = 10^{-2}$, $m = 10^{-3}$, $\mu = 10^{-6}$, $n = 10^{-9}$ p = 10^{-12} , 2.54 cm = 1 in, 12 in = 1 ft, 5280 ft = 1 mile, 3 feet = 1 yd, 60 sec = 1 min, 1 hr = 60 min, 4 quarts = 1 gal, 2 pints = 1 quart

1. (6 Pts) Perform each of the following conversions. You must show the complete setup.

a. Convert 905 ng to µg.
$$\frac{905 \times 9 10^{-9} / \mu}{\mu} = \frac{905 \times 10^{-3} \, \mu g}{\sigma 4.9.05 \times 10^{-3} \, \mu g}$$

b. Convert 875 nL to pL.
$$\frac{875 \times 10^{-9} \, P}{\pi} = \frac{87.5 \times 10^{-3} \, \mu g}{\sigma 2.8.75 \times 10^{-5} \, p L}$$

2. (4 Pts) Assume each of following numbers are measurements. Perform the indicated operations and then report the answer with the **proper number of significant figures**.

a. $\frac{(29.988+75)}{3.35x12.11}$ $\frac{2.59}{(3.5if Figs}$ $\frac{29.988}{75}$ (3.5if Figs) $\frac{104.988}{104.988}$ gives 3.5ig.Fig.b. $1.25 \text{ cm x } 12.10 \text{ cm x } 14.145 \text{ cm} = 2.14 \text{ cm}^3$

3. (5 Pts) A poster measures 32 in by 36 in. Determine its area in square centimeters (cm²) (you may ignore significant figures on this one).

$$A = 2 \times \omega$$

$$A = \frac{32 i \times 2.54 \text{ cm} 36 + i \times 2.54 \text{ cm}}{1 \text{ is}} = \frac{7432 \text{ cm}^2}{1432 \text{ cm}^2}$$

4. (5 Pts) A car is traveling at a rate of 68 miles per hour. Determine its speed in kilometers per <u>minute</u>. (You may ignore significant figures)?

5. (5 Pts) A sample of silver ore was found to contain 0.35 % silver by mass. How many mg of silver can be recovered 735.0 Mg of ore?