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CHM 151 Quiz 1a	25 Pts	Fall 2011	Name:	Ney	

**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 95 ng to pg.

b. Convert  $805 \,\mu L$  to mL.

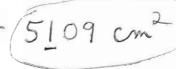
2. (4 Pts) Assume each of following numbers are measurements. Perform the indicated operations and then report the answer with the proper number of significant figures.

a. 
$$\frac{(6.354+99)}{2.35x12.11} = \frac{3.70202...}{3.70}$$

b.  $10.25 \,\mathrm{cm} \times 2.10 \,\mathrm{cm} \times 18.145 \,\mathrm{cm} = 390.5711.$  (391)

3. (5 Pts) A poster measures 22 in by 36 in. Determine its area in square centimeters (cm<sup>2</sup>) (you may ignore significant figures on this one).

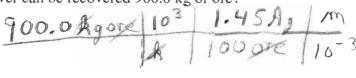
22 is 2.54cm 36 is 2.54cm = 5109 cm2

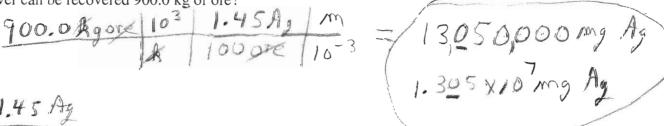


4. (5 Pts) A car is traveling at a rate of 65 miles per hour. Determine its speed in kilometers per

**minute**. (You may ignore significant figures)?

5. (5 Pts) A sample of silver ore was found to contain 1.45 % silver by mass. How many mg of silver can be recovered 900.0 kg of ore?





CHM 151	Quiz 1b	25 Pts	Fall 2011	Name:	Key	
Show All Work To Receive Credit!			Conversion f	actors 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 95 ng to µg.  $95 \text{ Ng} 10^{-9} \text{ M} = 95 \times 10^{-3} \text{ Mg} \text{ or } 0.095 \text{ Mg}$
- b. Convert 805 nL to pL.  $805 \times 10^{-9} = 805 \times 10^{3} \text{ pL}$
- 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.  $\frac{(26.354 + 89)}{3.35x12.11} = 2.843.$
  - b. 1.25 cm x 12.10 cm x 18.145 cm = 274.44...  $\approx 274$  cm<sup>3</sup>
- 3. (5 Pts) A poster measures 42 <u>in</u> by 56 <u>in</u>. Determine its area in square centimeters (cm<sup>2</sup>) (you may ignore significant figures on this one).

42 in 2.54 cm 56 in 2.54 cm = 15174 cm<sup>2</sup>

4. (5 Pts) A car is traveling at a rate of 55 miles per hour. Determine its speed in kilometers per minute. (You may ignore significant figures)?

55 mil 5280ft 12 ix 2.54 x10 2m / R 1 Kr = 1.48 km bk mil 103 60 min prin

5. (5 Pts) A sample of silver ore was found to contain 3.35 % silver by mass. How many mg of silver can be recovered 735.0 Mg of ore?

735.0Mg ope 106 m 3.35 Ag = 2.46 X/0 mg