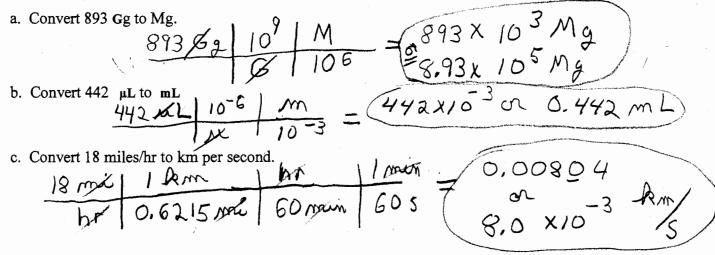
CHM 151	Quiz 1a	25 Pts	Fall 2019	Name: Key
Show All	Work To	Receive	Credit!	Conversion factors and prefixes:
0		3	23	106 109 1012 001 11 11 00

 $G=10^9,\,M=10^6,\,k=10^3,\,c=10^{-2},\,m=10^{-3},\,\mu=10^{-6},\,n=10^{-9}\,\,p=10^{-12}\,\,,\,2.54\,\,cm=1\,\,in,\,1\,\,km=0.6215\,\,mi,\,12\,\,in=1\,\,ft,\,5280\,\,ft=1\,\,mile,\,3\,\,feet=1\,\,yd,\,60\,\,sec=1\,\,min,\,1\,\,hr=60\,\,min,\,4\,\,quarts=1\,\,gal,\,2\,\,pints=1\,\,quart$

1. (9 Pts) Perform each of the following conversions. You must show the complete setup.



2. (6 Pts) Assume each of following numbers are measurements. Perform the indicated operations and then report the answer with the <u>proper number of significant figures</u>.

a.
$$802 \text{ cm} + 33.0 \text{ cm} + 185.65 \text{ cm} = 1020.65$$

b. 19.5 cm x 12.100 cm x 18.145 cm =
$$\frac{4281}{13.2 \times 2.53}$$
 $\frac{43.2}{(13.2 \times 2.53)}$ $\frac{43.2}{(13.2 \times 2.53)}$ $\frac{43.2}{(13.2 \times 2.53)}$

3. (5 Pts) A block of wood measures 14 inches by 128 inches by 55 inches. Determine its volume in cubic centimeters (you may ignore significant figures). 2.54 cm = 1 inch

14 in x 128 in x 55 in x
$$\frac{2.54^3 \text{ cm}^3}{1^3 \text{ lg/s}^3} = 1,615,109 \text{ cm}^3$$

5. (5 Pts) A sample of copper ore was found to contain 0.055 % copper by mass. How many grams of copper can be recovered 970.0 kg of ore?

$$\frac{970.0 \times 10^3 g}{1000 \text{ se}} = 533.5 g}$$
 Cu

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, 1 km = 0.6215 mi, 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. (9 Pts) Perform each of the following conversions. You must show the complete setup.

a. Convert 558 Mg to mg

nvert 558 Mg to mg. $\frac{558 \, \text{Mg to mg}}{M \, 10^{-3}} = 558 \, \text{X} \, 10^{9} \, \text{mg}$ or $5.58 \, \text{X} \, 10^{11} \, \text{mg}$ nvert 333 µL to nL $\frac{333 \, \text{µL to nL}}{M \, 10^{-6} \, \text{N}} = 333 \, \text{X} \, 10^{3} \, \text{ng}$ or $3.33 \, \text{X} \, 10^{5} \, \text{mg}$ b. Convert 333 μL to nL

81 mod | 1 fr | main = 0.0362 km | hr | 0.6215 mod | 60 min | 60 sec | 5 c. Convert 81 miles/hr to km per second

2. (6 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. 902.44 cm + 33.0 cm + 125.2 cm = 1060.6 cm

b. $100.5 \text{ cm x } 12.100 \text{ cm x } 18.145 \text{ cm} = 22065 \Rightarrow 22070$ c. $\frac{(23.2+95)}{(13.2 \times 2.53)} = \frac{118.2}{(13.2 \times 2.53)} = 3.54$ (5 Pts) A block of wood masses.

3. (5 Pts) A block of wood measures 14 inches by 28 inches by 55 inches. Determine its volume in cubic centimeters (you may ignore significant figures). 2.54 cm = 1 inch

 $\frac{14 \text{ in } \times 28 \text{ in } \times 55 \text{ in } \left[2.54^{3} \text{ cm}^{3} \right]}{1^{3} \text{ in}^{2}} = 353305 \text{ cm}^{3}$

5. (5 Pts) A sample of copper ore was found to contain 0.085 % copper by mass. How many grams of copper can be recovered 1070.0 kg of ore?

1070.0 ×103 g oxe 0.085 Cu = 909.59 Cu