

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

 $G = 10^9$ ,  $M = 10^6$ ,  $k = 10^3$ ,  $c = 10^{-2}$ ,  $m = 10^{-3}$ ,  $a = 10^{-6}$ , 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

1. (6 Pts) A Car is traveling at a rate of 75 km/hr. How fast is the car going in miles per second?

75 km, 103/ sux 1 ft mi Kr 1 mux = 0.01295 mil hp 1 ft 2.54 klo-2 pt 12 ibn 5280 ft 60 poin 60 sec SAME AN CENTÍ

2. (4 Pts) Convert each of the following to scientific notation without the use of prefixes:

a. 47 Giga Mega centi dollars =  $\frac{4.7 \times 10^{14}}{47 \times 10^9 \times 10^6 \times 10^{-2}}$  dollars  $\frac{6}{47 \times 10^9 \times 10^6 \times 10^{-2}}$   $\frac{1}{4}$  =  $\frac{4.7 \times 10^{14}}{47 \times 10^{13}}$  dollars b.  $3.0 \times 10^{10}$  centimeters =  $3.0 \times 10^{10} \times 10^{-3} = (3.0 \times 10^{8})$  meters

3. (5 Pts) A car engine size is listed as 327 cubic iches (in<sup>3</sup>). What would its size be in Liters?

327 in² 2.543 cm² 1 m/ 10 = 5.359 L

4. (5 Pts) A certain chemical procedure requires 105.6 cm of iron wire. How many feet of iron wire are required?

105.6 cm 1 1 1 1 = 3.465 ft

5. (5 Pts) A sample of silver ore was found to contain 1.86 % silver by mass. How many grams of silver can be recovered 800.0 kg of ore?

800.0 x10<sup>3</sup> g one 1.86 Ag = 14880 g Ag

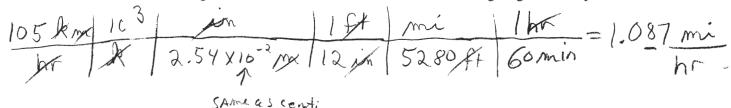
Conversion. 1.86 Ag

CHM 151	Quiz 1b	25 Pts	Spring 2005	Name:_	Key
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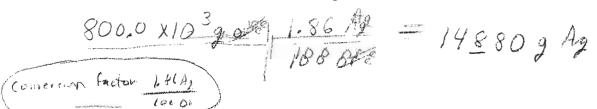
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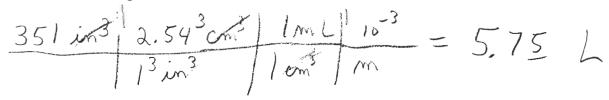
1. (6 Pts) A Car is traveling at a rate of 105 km/hr. How fast is the car going in miles per minute?



2. (5 Pts) (5 Pts) A sample of silver ore was found to contain 1.86 % silver by mass. How many grams of silver can be recovered 800.0 kg of ore?



3. (5 Pts) A car engine size is listed as 351 cubic inches (in<sup>3</sup>). What would its size be in Liters?



4. (4 Pts) Convert each of the following to scientific notation without the use of prefixes:

a. 47 Giga milli centi dollars = 
$$\frac{47 \times 10^{9} \text{ n}}{4.7 \times 10^{5}}$$
 dollars

b. 
$$3.0 \times 10^{10}$$
 millimeters =  $3.0 \times 10^{7}$  meters

5. (5 Pts) A certain chemical procedure requires 252.6 cm of iron wire. How many feet of iron wire are required?