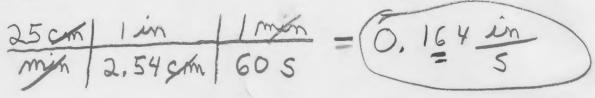
CHM 151 Quiz 1a 25 Pts Fall 2017 Name:___

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

 $G = 10^9$, $M = 10^6$, $k = 10^3$, $c = 10^{-2}$, $m = 10^{-3}$, $\mu = 10^{-6}$, $n = 10^{-9}$, 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. (4 Pts) A snail is traveling at a rate of 25 cm/minute. How fast is the snail going in inches per second?



2. (6 Pts)) Perform each of the following conversions. You must show the complete setup.

a. Convert 99 mL to nL. $\frac{99 \text{ ph} \text{ L} \left[10^{-3} \right] \text{ n}}{10^{7} 10^{-9}} = 9.9 \times 10^{7} \text{ nL}}$ b. Convert 105 µL to mL. $\frac{105 \text{ uL} \left[10^{-6} \right] \text{ m}}{10^{-3}} = 105 \times 10^{-3} \text{ or } 1.05 \times 10^{1} \text{ mL}}$

3. (5 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. 2.14 cm + 12.126 cm + 0.12 cm =
$$14.39$$
 cm
To this place
b. 1.25 cm x 2.1 cm x 1.145 cm = 3.0 cm³
 7
 $2.5.F$

4. (5 Pts) Chloroform, CHCl₃, has a density of 1.48 g/mL. How many mL of chloroform are needed to provide 85.0 g?

85.08 mL = 57.4 mL

5. (5 Pts) A sample of silver ore was found to contain 0.46 % silver by mass. How many grams of silver can be recovered 400.0 kg of ore?

CHM 151 Quiz 1b 25 Pts Fall 2017 Name:_

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

 $G = 10^9$, $M = 10^6$, $k = 10^3$, $c = 10^{-2}$, $m = 10^{-3}$, $\mu = 10^{-6}$, $n = 10^{-9}$, 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. (4 Pts) A snail is traveling at a rate of 45 cm/minute. How fast is the snail going in inches per second?

$$\frac{45 \, \text{cm}}{\text{min}} \, 2.54 \, \text{cm}} \, \frac{1 \, \text{min}}{60 \, \text{s}} = 0.295 \, \frac{\text{cm}}{5}$$

2. (6 Pts)) Perform each of the following conversions. You must show the complete setup.

- a. Convert 65 mL to nL. $65\% 10^{-3} n = 6.5 \times 10^{7} nL$ b. Convert 85 µL to mL. $85\% 10^{-6} m = 8.5 \times 10^{-2} mL$
- 3. (5 Pts)) Assume each of following numbers are measurements. Perform the indicated operations and then report the answer with <u>the proper number of significant figures.</u>

a. 2.14 cm + 12.126 cm
$$\oplus$$
 0.12 cm = 14.39 cm
L place
b. 1.25 cm x 2.1 cm x 1.145 cm = 3.0 cm³
 \uparrow \downarrow ς , f .

4. . (5 Pts) Chloroform, CHCl₃, has a density of 1.48 g/mL. How many mL of chloroform are needed to provide 28.0 g?

$$28.09 \text{ mL} = 18.9 \text{ mL}$$

5. (5 Pts) A sample of silver ore was found to contain 0.046 % silver by mass. How many grams of silver can be recovered 400.0 kg of ore?

$$\frac{400.0 \text{Rgare}}{\text{K}} \frac{10^3}{100 \text{ obc}} = 184 \text{ gAg}}{\text{K}} = 184 \text{ gAg}}$$