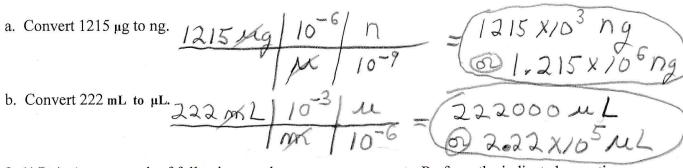
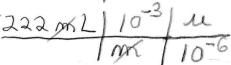
CHM 151 Quiz 1a 25 Pts Fall 2016 Name:					\ \		
	CHM 151 Quiz 1a	25 Pts	Fall 2016	Name:		ley	

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

 $G = 10^9$, $M = 10^6$, $k = 10^3$, $c = 10^{-2}$, $m = 10^{-3}$, $\mu = 10^{-6}$, $n = 10^{-9}$, 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. (6 Pts) Perform each of the following conversions. You must show the complete setup.





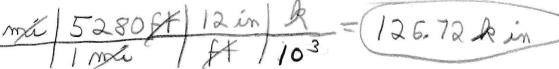
2. (4 Pts) Assume each of following numbers are measurements. Perform the indicated operations and then report the answer with the proper number of significant figures.

a.
$$15.145 \text{ cm} + 15.1265 \text{ cm} + 25.22 \text{ cm} = \frac{55.4915}{\text{cm}} = \frac{54.49}{\text{cm}}$$

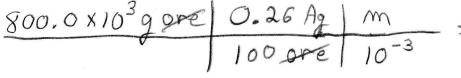
- b. $10.25 \text{ cm} \times 8.10 \text{ cm} \times 10.145 \text{ cm} = 842.288625$
- 3. (5 Pts) A poster measures 25 inches by 32 inches. Determine its area in square inches and in square cm (cm²). (you may ignore significant figures).

a. in²

4. (5 Pts) How many kilo-inches are in 2 miles (You may ignore significant figures) (conversion factors are listed on the top of the page)?



5. (5 Pts) A sample of silver ore was found to contain 0.26 % silver by mass. How many mg of silver can be recovered 800.0 kg of ore? (You must show setup)



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

a. Convert 627 nL to mL.
$$627 \text{ NL} 10^{-9} \text{ m} = 627 \times 10^{-6} \text{ mL}$$

b. Convert 75 mg to μg . $75 \text{ m/g} 10^{-3} \text{ M} = 75 \times 10^{-3} \text{ Mg}$

b. Convert 75 mg to
$$\mu g$$
. $75 mg | 10^{-3} \mu$ = $75 \times 10^{3} \mu g$ $\sim 7.5 \times 10^{4} \mu g$

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.
$$313.4 \text{ cm} + 212.526 \text{ cm} + 0.052 \text{ cm} = 525.978$$

$$2 \text{ sig. Figs.}$$
b. $7.2 \text{ cm} \times 6.12 \text{ cm} \times 12.145 \text{ cm} = 535.17540 \text{ cm}^3$

3. (5 Pts) A poster measures 33 inches by 45 inches. Determine its area in square inches and in square cm (cm²).

(You may ignore significant figures)

a. in²
$$33 \text{ in} | 45 \text{ in} = 1485 \text{ in}^2$$

b. cm² $1485 \text{ in}^2 | 2.54^2 \text{ cm}^2 = 9580 \text{ cm}^2$

4. (5 Pts) How many inches are in 1.8 kilo-miles (You may ignore significant figures)?

$$\frac{1.8 \times 10^{3} \text{ m/s}}{1 \text{ m/s}} = \frac{11.4048000 \text{ Jm}}{1.14 \times 10^{8} \text{ m}}$$
5. (5 Pts) A sample of silver ore was found to contain 0.056 % silver by mass. How many mg of

silver can be recovered 500.0 kg of ore? (you must show the setup)

$$\frac{500.0 \times 10^{3} \text{ gg/m}}{10^{-3}} \frac{0.056 \text{ Ag}}{100 \text{ ore}} = 280,000 \text{ mg Ag}}{2.8 \times 10^{5} \text{ mg Ag}}$$