

**Quiz One Review**

Name: \_\_\_\_\_

If you could rename yourself: \_\_\_\_\_

Scientific Notation Review

standard notation	scientific notation	# of sig figs in both
1,300		
	$2.40 \times 10^{-3}$	
0.0054		
	$1.00 \times 10^2$	
100		
	$6.73 \times 10^5$	

Sig Figs Review: count up and underline all of the sig figs in these measurements:

a) 450 g    b) 0.0060 g    c) 50.0 mL    d) 3.40 mL    e) 1.050 mg    f) 0.5 mL

g) 342.0 g    h) 900 g    i) 809 mL    h)  $1.30 \times 10^3$  g    i) 0.0010 kg

Sig Figs Math: perform the following math operations, rounding to the correct number of sig figs

- a)  $39.1 \text{ m} \times 5.4 \text{ m} =$       unrounded      =      w/ correct sig figs and unit  
 \_\_\_\_\_ = \_\_\_\_\_
- b)  $15.40 \text{ g} / 3.2 \text{ mL} =$       \_\_\_\_\_ = \_\_\_\_\_
- c)  $16.00 \text{ g} / 4.00 \text{ mL} =$       \_\_\_\_\_ = \_\_\_\_\_
- d)  $4.320 \text{ g} + 10.3 \text{ g} =$       \_\_\_\_\_ = \_\_\_\_\_
- e)  $73.957 \text{ g} - 10. \text{ g} =$       \_\_\_\_\_ = \_\_\_\_\_

Conversions:

a) 5490 mg      \_\_\_\_\_g

b)  $30. \frac{\text{km}}{\text{hr}}$       \_\_\_\_\_  $\frac{\text{m}}{\text{sec}}$

c) A bus is heading towards the Oregon country fair with exactly 1.05 L of patchouli oil to "freshen up" the hippie masses. There are 3,000. pungent hippies there, each one in need of one "dose" of patchouli oil. One dose of oil is equivalent to five drops. Four drops equals 0.5 mL. Is there enough patchouli oil to ameliorate this skunky situation? Do as unit conversion problem, showing units canceling.

\_1.05 L\_      \_\_\_\_\_hippies

### Quiz One Review Continued

1) Fill in the following table.

element + mass #	P <sup>+</sup>	N <sup>0</sup>
oxygen-18		
beryllium-_____		5
sodium-23		
lead-_____		124
_____ - _____	55	76
argon-40		
	1	0
lithium-_____		4

2) The mass number in the following chart contains which two subatomic particles?

\_\_\_\_\_

3) Why are electrons not included in the mass number?

\_\_\_\_\_

4) Atom One has 6 protons and 6 neutrons. Atom two has 6 protons and 8 neutrons.

a) Are atom one and atom two the same element? Explain.

b) Atom two is radioactive, what does this mean?

5) Calculate the average atomic mass of unknown element X. Element X has two isotopes, X-85 and X-87. X-85 has an atomic mass of 84.912 amu and occurs at an abundance of 72.17%. X-87 has an atomic mass of 86.909 amu and occurs at an abundance of 27.83%. Show your work. When done, identify element X by the average masses on your periodic table.