

\* I-1 \_\_\_\_ C \_\_\_\_ NC

**Chemistry 130**  
**Worksheet 1**

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

\* 1. (0.8pt.) Give the name of symbol, as indicated for each of the following:

Lead \_\_\_\_\_ P \_\_\_\_\_

Mercury \_\_\_\_\_ Ba \_\_\_\_\_

Potassium \_\_\_\_\_ Ag \_\_\_\_\_

Arsenic \_\_\_\_\_ Cr \_\_\_\_\_

2. (0.4pt.) Carry out the following conversions within the metric system.

732cm = \_\_\_\_\_ m      12.3cc = \_\_\_\_\_ mL

0.237dg = \_\_\_\_\_ mg      43.2mL = \_\_\_\_\_ L

3. (0.8pt.) Carry out the following temperature conversions.

80.0°F = \_\_\_\_\_ °C

400K = \_\_\_\_\_ °C

4. (1.0pt.) A. Given that 1.000m = 39.37in, calculate the number of meters in 80.0in.

B. Given that 1 qt = 946.4mL and 1oz = 29.57mL, calculate the number of quarts in 73.2oz.

5. (0.4pt.) Indicate the number of significant figures in each of the following:

1.402 \_\_\_\_\_       $1.50 \times 10^4$  \_\_\_\_\_

0.0200 \_\_\_\_\_      0.007 \_\_\_\_\_

6. (0.4pt.) Round each of the following to 3 significant figures.

8.455 \_\_\_\_\_

17.35 \_\_\_\_\_

80000 \_\_\_\_\_

0.0049953 \_\_\_\_\_

7. (0.8pt.) Carry out the following mathematical operations.

(8.973)(4.11) \_\_\_\_\_

$7.942 \div 3$  \_\_\_\_\_

$(6.1 \times 10^4)(4.33 \times 10^8)$  \_\_\_\_\_

$8.000 + 4.32 + 6.1$  \_\_\_\_\_

8. (1.0pt.) Calculate the amount of heat in calories required to raise the temperature of 8.0 grams of water from 15.0°C to 20.0°C.

9. (0.4pt.) A 50.0cm<sup>3</sup> sample of a mineral has a mass of 68.1g. Calculate the density of this mineral.

10 (0.4pt.) Sulfuric acid has a density of 1.84g/mL. Find the volume of a 25.0g sample of sulfuric acid.

11. (1.2pt.) Indicate the number of protons, electrons, and neutron for each of the following atoms.

A. <sup>236</sup><sub>92</sub>U    p = \_\_\_\_\_    e = \_\_\_\_\_    n = \_\_\_\_\_

B. <sup>48</sup><sub>22</sub>Ti    p = \_\_\_\_\_    e = \_\_\_\_\_    n = \_\_\_\_\_

C. <sup>35</sup><sub>17</sub>Cl    p = \_\_\_\_\_    e = \_\_\_\_\_    n = \_\_\_\_\_

D. <sup>24</sup><sub>12</sub>Mg    p = \_\_\_\_\_    e = \_\_\_\_\_    n = \_\_\_\_\_

12. (1.6pt.) Fill in the blanks in the following table.

Symbol	Atomic #	Mass #	# of Protons	# of Electrons	# of Neutrons
V		51			
	40				52
		64	29		
Re					110

13. (0.5pt.) Give the symbol for the element that fits the following descriptions. If more than one answer is possible, give only one answer.

A. A nonmetal in Group IVA. \_\_\_\_\_

B. a halogen in the 3<sup>rd</sup> period. \_\_\_\_\_

C. A metalloid in Group VA. \_\_\_\_\_

D. An alkaline earth metal in the 4<sup>th</sup> period. \_\_\_\_\_

E. The element with 5 valence electrons in the 4<sup>th</sup> period. \_\_\_\_\_

14. (0.3pt.) Sketch the Bohr atom representation for  $^{23}_{11}\text{Na}$ .