CHEMISTRY REVIEW I FROM CHEM 120

1. Carry out the following calculations and report the answer with the correct number of significant figures (SF) and units. Remember to round, not truncate, to the correct number of SF.
2. (1.73 g/cm3)/(122.3 g) = 0.0141 cm-3
3. 1.285 x 10-2 m + 1.24 x 10-3 m + 0.1870 m =

$$0.01285 m+ .00124 m+0.1870 m =0.2011 m$$

1. $\frac{8.925 mg -8.904 mg}{8.925 mg}=$

$$\frac{0.021 mg}{8.925 mg}=0.0024 $$

1. 1.7 x 10-27 + 9 x 10-31 =

 $1.7 ×10^{-27}+0.0009 × 10^{-27}=1.7009 × 10^{-27}= 1.7 ×10^{-27}$

1. Perform the following conversions and give your answer in scientific notation.
2. 4.851 km = \_\_\_\_\_\_\_\_\_\_\_\_\_ m

$4.851 km × \frac{1000 m}{1 km}=4.851 × 10^{3}$ m

1. 6.0 μg = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ g

$$6.0 μg × \frac{1 g}{1 × 10^{6} μg}=6.0 × 10^{-6} g$$

1. 0.033 ns = \_\_\_\_\_\_\_\_\_\_\_\_\_\_ s

$$0.033 ns × \frac{1 s}{1 × 10^{9} ns}=3.3× 10^{-11} s$$

1. 13 dL = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ L

$$13 dL × \frac{1 L}{10 dL}=1.3× 10^{0} L$$

1. Convert the following measurements
2. 18 gallons \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ m3 (1 dm3 = 1 L)

$$18 gallons × \frac{3.785 L}{1 gal} × \frac{1 dm^{3}}{1 L} × \left(\frac{1 m}{10 dm}\right)^{3}=0.068 m^{3}$$

1. 198 lb to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ kg

$$198 lb × \frac{453.6 g}{1 lb} × \frac{1 kg}{1000 g} =89.8 kg$$

1. 2.2 billion miles/yr to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ m/ sec (1 mile =5280 ft)

$$\frac{2.2 × 10^{9}mi}{1 yr} × \frac{5280 ft}{1 mi} × \frac{12 in}{1 ft} × \frac{2.54 cm}{1 in} × \frac{1 m}{100 cm}× \frac{1 yr}{365 days}× \frac{1 day}{24 Hours}× \frac{1 Hour}{3600 sec}=1.1 × 10^{5 }\frac{m}{s}$$

1. 93.2 °F to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ K

 $=34.0°C+273.15=307.2 K $

1. Give the IUPAC name for the following compounds

* 1. Al2S3  Aluminum sulfide
	2. Fe(OH)2 Iron(II) hydroxide
	3. LiClO2 Lithium chlorite
	4. TiBO3 Titanium(III) borate
	5. Sb2O5 Diantimony pentoxide
1. Write the correct formula for each of the following compounds
	1. cesium hydride CsH
	2. nickel(II) perbromate Ni(BrO4)2
	3. nitrogen monoxide NO
	4. copper(I) oxide Cu2O
	5. calcium phosphate Ca3(PO4)2