## Review Chapters 1 and 2

Name

Directions: Answer each of the following.

	1 1				
1.	Liquid is the state	of matter which l	has a definite vo	olume but no	definite shape.

- Another name for a homogeneous mixture is a(n) \_\_\_\_\_ & lut lum\_ 2.
- Can the elements in a compound be separated by chemical means? by physical means?

	4.	List 2 inte	ensive proj	perties and 2	2 extensive	properties.	•	1	11	a- a- it
donsite	,60	+, mpt	4-1		_		mass, v	olume,	rrear	capacing
otalisti j	5.	The cm is	a unit of	distance	; cm <sup>2</sup> is a	unit of	area	; and	cm <sup>3</sup> is a	l
Specific		unit of	Volune	•						

- Which of the following is the longest distance? (1 km)  $10^6 \,\mu$  m, or  $10^{-6} \,\mathrm{Mm}$ ?
- $17.2 \text{ cm} + 204.8 \text{ mm} = \frac{377}{} \text{mm}$ (172 mm)
- Which of John Dalton's postulates was incorrect about atomic theory? Why?

- 11. Name an element which is: Fr or Pl2 4 a. a gas and also a halogen (assume room temperature)

  b. a metalloid B, Si, Ge, As, Sb, Te

  c. an alkaline earth metal

  Be, Mg, Ca, Sr, Ba, Ra

  Representation of the content nor destroyed to the provential of the content of the conte

  - 12. Write the empirical formula for glucose.

  - Write the formula for:

    a. a polyatomic anion

    b. a monatomic cation 13. Write the formula for:
    - b. a monatomic cation
- c. any molecular compound
  d. magnesium cyanide
  e. nickel (II) nitride
  f. hyponitrous acid

  - HNO
  - 14. Name each of the following: a. MnO4- permanganate ion
- b.  $Cr(OH)_3$
- NBr3 nitrojen tribromide NH4Cl ammonium chloride

C6 H12 Oc CH20
Molecular Empirical

Chromium (III) hydroxide

## **Problems**

1. A bug travels at the rate of 3.0 miles/hour. How fast is this in  $\mu$ m/nsec? <u>Hint:</u>

 $2.54 \ cm = 1 \ inch \ and \ 1 \ mile = 5,280 \ feet$ 

3.0 miles 5280 fet 12 in 2.54 cm 10 2 cm 10 2 cm 10 m

Comy 60 sex 10 gnsec

= 1.0013 MM NRC

2.

Diameter = 25.0 mm

Calculate its density in  $g/cm^3$ .

Height = 59.0 cm

Mass = 38.0 g

$$d = \frac{m}{V} = \frac{38.09}{(1)(1.25 \text{cm})^2 (59.0 \text{cm})} = \frac{(13.19)^2}{(1.25 \text{cm})^2 (59.0 \text{cm})}$$

3. The concentration of CO in a room is  $48 \mu g/m^3$ . What mass (g) is present in a room which measures  $8.0 \times 12.0 \times 22$  feet?

 $\frac{(8.044 \times 12.044 \times 22.44)}{(42.4)^3} \frac{(12.4)^3}{(2.540)^3} \frac{(2.540)^3}{(10^2 \text{cm})^3} \frac{(10^2 \text{cm})^3}{(10^3 \text{g})} = \frac{(2.9 \times 10^{-3} \text{g})}{(10^6 \text{mg})}$ 

4. Ben Franklin showed that 1 teaspoon of oil would cover about 0.50 acre of still water. If you know that  $1.0 \times 10^4 \text{ m}^2 = 2.47$  acres, and that there are  $5.0 \text{ cm}^3$  in a teaspoon, what is the thickness (in cm) of a layer of oil?

 $\frac{11+5p}{1+5p} = \frac{5.0 \text{ cm}^3}{10^2 \text{ cm}^2} = \frac{2.47 \text{ acres}}{1.0 \times 10^4 \text{ m}^2} = \frac{2.47 \times 10^{-2} \text{ cm}}{2.500 \text{ acre}} = \frac{2.47 \times 10^{-2} \text{ cm}}{2.47 \times 10^{-2} \text{ cm}}$