

Name: KEY

January 30, 2009

Quiz # 1

Show all work and use units when performing calculations.

1.) Define the following properties of a compound as either physical or chemical change: (6 pts)

a. Alcohol evaporates.

b. Sulfur is burned

c. Rock salt is pulverized

2.) The unit "Troy ounce" is often used for precious metals such as gold (Au) and platinum (Pt) (1 troy ounce = 31.103 g).

a. A gold coin weighs 3.12 troy ounces. What is this mass in grams? (2 pts)

97.0g

b. Is a troy ounce heavier or lighter than an ounce? (1 lb = 16 oz; 1 lb = 453.6 g) (4 pts)

28.35 g/oz.

## 02 Dimensional Analysis Worksheet

Name: KEY

Show all work. Use scientific notation for any numbers over 1000. Report answers with proper sig figs.

## 1) Metric Conversions

a) Convert 45.2 m to cm.

$$4.52 \times 10^3 \text{ cm}$$

c) How many micrograms are in 625 kg?

$$6.25 \times 10^8 \mu\text{g}$$

d) Convert 72.9 cm<sup>3</sup> to cubic meters.

$$7.29 \times 10^{-5} \text{ m}^3$$

## 2) Solve the following conversion problems:

a) A slow jogger runs a mile in 16 min. What is the jogger's speed in meters per second?

$$1.7 \text{ m/s}$$

b) How many grams of blood are contained in a  $4.0 \times 10^3$  gram blood sample containing 0.50 grams of blood per megagram of solution?

$$2.0 \times 10^{-3} \text{ g blood}$$

c) The density of ammonia gas is 0.625 g/L. Determine this value in g/cm<sup>3</sup>.

$$6.25 \times 10^{-4} \text{ g/cm}^3$$