

Name \_\_\_\_\_

### Converting Practice 1

1. Perform the following math problems. Write your answers with the proper number of significant figures.

*In multi-step calculations, you should keep extra sig figs in the calculation process. Then go back and look at and keep track of the number of sig figs in the answer of every step. Round your final answer based on the number of sig figs in these intermediate answers.*

a.  $89.020 \times 77.0 \times 0.082 =$  \_\_\_\_\_

b.  $5.00 \times 10^{21} / 4.01 \times 10^{-12} =$  \_\_\_\_\_

c.  $\frac{(78.4 - 44.889)}{0.008711} =$  \_\_\_\_\_

d.  $(21.4 - 20.634) \times 8.300 =$  \_\_\_\_\_

e.  $\frac{0.123 \times 11.27 + 3.024}{2.0} =$  \_\_\_\_\_

f.  $\frac{0.123 \times 11.27 - 3.024}{(22.0 - 1.4)} =$  \_\_\_\_\_

### **MUST SHOW ALL WORK INCLUDING UNITS AS DONE IN CLASS**

2. Perform the following conversions. Be sure to show all work and round all answers. Use the handout given in class. In addition, you may use:

$$12 \text{ inches} = 1 \text{ foot}$$

$$1 \text{ light-year} = 9.46 \times 10^{15} \text{ m}$$

a. 133 Liters to gallons

b.  $4.452 \times 10^{13}$  yards to meters

c. 336 ft to cm

d. 5.05 calories to BTU

f.  $8.8 \times 10^{-14}$  teaspoons = ? cups

3. In 1992, the first planets outside the Solar System were detected approximately 1300 light-years from Earth. How many inches wide is this gap?

4. A recipe calls for 3.0 cups of flour. How many pinches of flour is this?

5. The Kentucky Derby horse race is 10.0 furlongs. How many inches is this? (8 furlongs = 1 mile, 12 inches = 1 foot)

6. Classify each of the following as either an element ( E ) , compound( C), homogeneous (HO) mixture or heterogeneous mixture (HE)

\_\_\_ A slice of Pepperoni Pizza

\_\_\_ Helium

\_\_\_ Alcohol (CH<sub>3</sub>OH)

\_\_\_ Ice

\_\_\_ A cup of coffee

\_\_\_ An Apple

\_\_\_ Gold

\_\_\_ Hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>)

7. Classify each of the following as a physical (P) or Chemical (C) change.

\_\_\_ Gasoline is burned in your car.

\_\_\_ Salt is dissolved in water.

\_\_\_ A piece of metal is cut into pieces

\_\_\_ A old car rusts away in my driveway.