

Name: _____

Quiz #1
CHEM 1411 — Fall 2009

1. Classify each of the following changes as physical or chemical. (15 pts)

a. Salt (sodium chloride) dissolves in water. _____

b. The liquid propane in a gas grill evaporates because the user left the valve open. _____

c. The liquid propane in a gas grill burns in a flame. _____

2. Use the prefix multipliers to express each of the following measurements without any exponents. (15 pts)

a. 1.5×10^3 g = 1.5 _____g

b. 2.2×10^{-9} s = 2.2 _____s

c. 5.2×10^{-3} L = 5.2 _____L

3. How many significant figures are in each of the following measured numbers? (10 pts)

a. 0.0070 m _____

b. 108,700 km _____

4. Perform the following calculation to the correct number of significant figures. (10 pts)

$$4.500 \times 2.000 / 0.300 = \underline{\hspace{2cm}}$$

- _____ (a) 30
(b) 30.
(c) 30.0
(d) 30.00

5. Perform the following calculation to the correct number of significant figures. (10 pts)

$$17.6 + 2.838 + 2.3 + 110.77 = \underline{\hspace{2cm}}$$

- _____ (a) 133.508
(b) 133.51
(c) 133.5
(d) 134

6. Perform the following calculation to the correct number of significant figures. (10 pts)

$$24.996 - 23.786 = \underline{\hspace{2cm}}$$

- _____ (a) 1.2
(b) 1.21
(c) 1.210
(d) 1.2100

7. Perform the following conversion: **3.14 kg to g** (10 pts)

8. Perform the following conversion: **1.4 in to mm** (10 pts)

9. What is the volume of a sample of acetone having a mass of 750 g? The density of acetone is 0.788 g/mL. (10 pts)