Chemistry Name _____

Significant Figures Revisited - Practice

1. Rules for Adding and Subtracting: Your answer can only be as accurate as the least accurate number (judged by place value, such as the one's place or the 100'ths place or the third place after the decimal). Solve the following with the correct number of significant figures.

a. _____ 13.2 + 14.57 _____ .0678 + .002 _____ 678 + 1,200

b. _____ 47.2 - 39.844 _____ 2.0 - .995 _____ 45.00 - 3

2. How many significant figures are in each of the following numbers?

a. _____ 3,466.98
b. _____ 208
c. _____ 72,000
d. _____ 72,000.
e. _____ 452.0
f. _____ 0.00654
g. _____ 8,908.00020
h. _____ 0.02300

3. Multiplying and Dividing: Your answer can only have as many sig figs as the least number of sig figs that you multiplied or divided. Multiply or divide, answering with the correct number of sig figs.

a. _____ 334.8 x 1.23 _____ 5101 x 16.1111 _____ .00022 x 10,100

b. _____ 345 ÷ 0.98 _____ .01589 ÷ 251 _____ 601.4 ÷ .019

4. Do you count numbers of sig figs when you're adding or subtracting numbers? _____

5. Do you count numbers of sig figs when you're multiplying or dividing? _____

6. Real life problems: Calculate and answer with the correct number of sig figs. [Note: conversion factors that are by definition, such as 1000m = 1km, have infinite sig figs and should not limit the sig figs in the final answer.]

a. $\frac{55.0 \text{ miles}}{\text{hour}} \text{ x } \frac{1.609 \text{ km}}{1.000 \text{ mile}} \text{ x } \frac{1000 \text{m}}{\text{km}} =$

b. $(13.45 \text{ ft} + 2.768 \text{ ft}) \text{ x } (7.9848 \text{ ft} - .0341 \text{ ft}) =$

c. $37.00 \text{ m} + 142.7 \text{ ft x } \frac{1.000 \text{ m}}{3.281 \text{ ft}} + .00639 \text{ km x } \frac{1000 \text{ m}}{1 \text{ km}} + 1{,}750 \text{ cm x } \frac{1 \text{ m}}{100 \text{ cm}} =$