***SPH 3U1 Assignment # 1***

***Scientific Notation, Significant Digits and Conversions***

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Due Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Write each number in ***scientific notation***.

a. 9 300 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ d. 250 x 102 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. 0.008090 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ e. 0.0064 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. 5 600 000 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ f. 2.78 x 105 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Write each number in ***expanded form***.

a. 5.6 x 103 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ d. 9.6 x 10-4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. 8.79 x 10-6 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ e. 0.06 x 103 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. 48 x 10-1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ f. 3.8 x 100 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. State the number of ***significant digits*** contained in each value.

a. 560 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ e. 0.000 000 008 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

b. 9 000 000 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ f. 15 000.0 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

c. 0.300 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ g. 0.003 100 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

d. 0.005 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ h. 7.650 300 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Perform the indicated ***metric conversion***.

a. 65 cm = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_m g. 5.8 cg =\_\_\_\_\_\_\_\_\_\_\_\_\_\_kg

b. 250 km = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_m h. 2.5 x 104 cm = \_\_\_\_\_\_\_\_\_\_\_\_\_pm

c. 540 mm = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_m i. 9.0 x 10-2km = \_\_\_\_\_\_\_\_\_\_\_\_\_m

d. 0.06 km = \_\_\_\_\_\_\_\_\_\_\_\_\_\_cm j. 8.6 x 1015 pm = \_\_\_\_\_\_\_\_\_\_\_\_dam

e. 2.85 L = \_\_\_\_\_\_\_\_\_\_\_\_\_\_kL k. 2 x 10 Zm =\_\_\_\_\_\_\_\_\_\_\_\_\_Mm

f. 120 dB = \_\_\_\_\_\_\_\_\_\_\_\_\_\_B l. 12.2 x 10-4Pm = \_\_\_\_\_\_\_\_\_\_\_\_\_Em

5. Calculate the answer to the following calculations and round off to the correct number of decimal places or significant figures.

a. 5.671 + 18.67 - 12.45677

b. 12 x 18.79

1.45

c. 3.452 ÷ 0.00012

d. 0.00012 - 0.00180 + 1.9000