PAL Worksheet – Chem 6A

Significant Figures

I. IDENTIFYING SIGNIFICANT FIGURES

NOTE: You may want to review the rules for significant figures, particularly in regard to zeroes, before starting this worksheet.

1. a. How many significant figures are in the measurement 604 g? _____

   b. Is the zero in the above measurement significant? Why or why not?

2. a. How many significant figures are in the measurement 0.05 cm? _____

   b. Are the zeros in the above measurement significant? Why or why not?

3. a. How many significant figures are in the measurement 1.20 s? _____

   b. Is the zero in the above measurement significant? Why or why not?

4. a. How many significant figures are in the measurement 120 miles? _____

   b. Is the zero in the above measurement significant? Why or why not?

5. How many significant figures are in the following measurements?

a. 6.040 m _____

b. 100.2 mg _____

c. 40050 cg _____

d. 0.008094 km _____

e. 0.780 g _____

f. 10.0900 L _____

II. DETERMINING SIG FIGS FOR CALCULATED VALUES

A. What is the "rule" for sig figs in the answer after adding or subtracting?

B. What is the "rule" for sig figs in the answer after multiplying or dividing?

Start practicing! Perform the following calculations.

1. 7.4 + 10.88 =

a. Full calculated answer before rounding = _____

b. Final answer, rounded to correct number of significant figures = _____

c. *Why* does your answer have that many significant figures?

2. 24.96 + 11 =

a. Full calculated answer before rounding = _____

b. Final answer, rounded to correct number of significant figures = _____

c. *Why* does your answer have that many significant figures?

3. 105 – 28.2 + 4.87 =

a. Full calculated answer before rounding = _____

b. Final answer, rounded to correct number of significant figures = _____

c. *Why* does your answer have that many significant figures?

4. 0.015 x 708 =

a. Full calculated answer before rounding = _____

b. Final answer, rounded to correct number of significant figures = _____

c. *Why* does your answer have that many significant figures?

5. 50.430 ÷ 5.0430 =

a. Full calculated answer before rounding = _____

b. Final answer, rounded to correct number of significant figures = _____

c. *Why* does your answer have that many significant figures?

6. 4200 x 8.10 ÷ 6.08 =

a. Full calculated answer before rounding = _____

b. Final answer, rounded to correct number of significant figures = _____

c. *Why* does your answer have that many significant figures?

7. 6 x (21 ÷ 7) =

a. Full calculated answer before rounding = _____

b. Final answer, rounded to correct number of significant figures = _____

c. *Why* does your answer have that many significant figures?