1.4 CALCULATIONS USING SIGNIFICANT FIGURES

Rules for rounding

0 – 4: Leave it
5 – 9: Raise it!

Examples:

Round the following number to the following number of sig figs: 21.409653

TWO _____ THREE _____ FOUR _____

FIVE _____ SIX _____ SEVEN_____

Round the following number to FOUR significant figures

4.000574×10^5_____ 375.6523 _____ 89,762,334 _____

Multiplication and Division of Significant Figures

Round the answer to the least number of significant figures in the given problem

Express the answer to each of the following with the correct number of significant figures.

1. 1.35 x 2.467 = 3.33045

2. 1035 x 42 = 43470

3. $\frac{0.0021}{3.2 \times 0.01} = 0.065625$

Addition and Subtraction of Significant Figures

Round answer to the least number of digits past the decimal point in the given problem.

Express the answer to each of the following with the correct number of significant figures:

4. 12.01 + 35.2 + 6 = 53.21

5. 55.46 - 28.9 = 26.56

6. 0.15 + 1.15 + 2.051 = 3.351

HOMEWORK: Calculations Using Significant Figures

I. Solve the following problems using your calculator and express each answer with the correct number of significant figures.

1. 56.983 + 1.8234 + 125 + 2.12 =

2. $\frac{3.561 \times 2.89}{2.18 \times 5.5317}$ =

3. $\frac{4.8316 \times 1.17112}{0.00365 \times 5.13161}$ =

4. 362.187 - 2.187 =

5. 3.00 + 4.1631 + 9.25 + 21.1 =

6. $\frac{0.00236 \times 0.0389}{0.000987}$ =

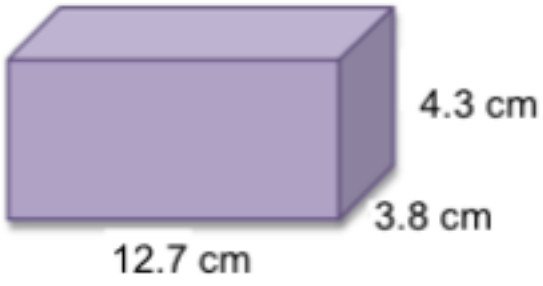
II. ***Express the answer to each of the following with the correct number of significant figures. Report your answer in scientific notation.***

7. $\frac{(3.64928 x 10^{5})(7.65314 x 10^{7})}{(5.2 x 10^{-3})(5.7254 x 10^{5)}}$ =

8. $\frac{3.52164 x 10^{2} \times 3.1741 x 10^{5}}{8.22 x 10^{7} \times 4.65217 x 10^{-3} \times 9.711 x 10^{4}}$ =

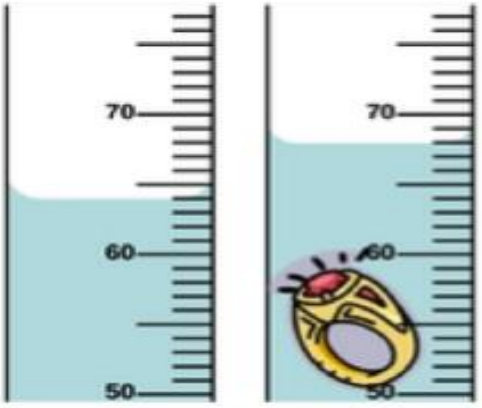
III. ***Express the answer to each of the following with the correct number of significant figures.***

9.



Calculate the VOLUME of the cube

10.



Calculate the VOLUME of the ring