

UBSP – Worksheet #1

1) Round each of the following numbers to 3 significant figures. (Scientific notation is optional on this question)

a) 8265391000 8270000000 or 8.27×10^9 b) 0.00547330 0.00547 or 5.47×10^{-3} c) 0.0659822 0.0660 or 6.60×10^{-2}

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

a) 100 1 b) 0.006530 4 c) 6.626×10^{-34} 4

3) Put each of the following numbers into scientific notation with the correct number of significant figures.

a) -5526.7 -5.5267×10^3 b) 5467000000 5.467×10^9 c) 0.00005883 5.883×10^{-5}

4) Perform the following calculations and report your answers with the correct number of significant figures.

a) 0.002354×17.917

b) $2500.0 + 1.236 + 367.01$

c) $\frac{1}{4.0 \times 10^{-4}}$

$$\begin{array}{r} 2500.\overset{\color{red}{0}}{\mid} \\ +1.\overset{\color{red}{2}}{\mid}36 \\ +367.\overset{\color{red}{0}}{\mid}1 \\ \hline 2868.\overset{\color{red}{2}}{\mid}46 \end{array}$$

0.04218 or 4.218×10^{-2}

2868.2

2500 or 2.5×10^3

e) $16.28 - 6.3$

f) $\frac{2160.0}{27}$

g) $\frac{536 \times 0.3301 \times 60.002}{0.0048 \times 12.1}$

$$\begin{array}{r} 16.\overset{\color{red}{2}}{\mid}8 \\ -6.\overset{\color{red}{3}}{\mid} \\ \hline 9.\overset{\color{red}{9}}{\mid}8 \end{array}$$

10.0

80. or 8.0×10^1

180000 or 1.8×10^5

7) The distance from here to Sac City is 22,101,134,889 micrometers. What is this distance in kilometers? (Show your work, sig. figs count!)

$$22,101,134,889 \text{ } \mu\text{m} \times \frac{1\text{m}}{1000000 \text{ } \mu\text{m}} \times \frac{1 \text{ km}}{1000 \text{ m}} = \boxed{22.101134889 \text{ km}}$$