QUIZ 1 KEY

1. Round 47,027 to 4 significant figures. (2 points) __47,030__ (or 4.703×10^4)

2. How many significant figures are present in the following numbers? (2 points)

    a) 56.3800   __6__

    b) 0.0002087   __4__

3. Perform the following operations, expressing each answer to the correct number of significant figures. (6 pts)

    a) $(7.61 \times 10^{-7}) \times (2.5 \times 10^5)$ = __1.9×10^{-1}__ $\Leftarrow$ answer rounded to 2 sig figs
    since 2.5×10^5 has fewest sig figs

    b) 342 + 16.37 + 4.4 = __363__ $\Leftarrow$ answer rounded to one's place since
    342 is has fewest decimal places

4. Convert these measurements to the indicated units. **SHOW SET-UP OR NO CREDIT GIVEN!** (10 pts)

    a) 21.2 m = __2120__ cm $\dfrac{21.2\ m}{} \times \dfrac{100\ cm}{1\ m} = 2120\ cm$

    b) 168 mL = __0.168__ L $\dfrac{168\ mL}{} \times \dfrac{1\ L}{1000\ mL} = 0.168\ L$

    c) 972 cg = __0.00972__ kg $\dfrac{972\ cg}{} \times \dfrac{1\ g}{100\ cg} \times \dfrac{1\ kg}{1000\ g} = 0.00972\ kg$

5. Convert 85.5 $\dfrac{km}{hr}$ to $\dfrac{mile}{s}$. (Given: 1.61 km = 1 mile) **SHOW SET-UP OR NO CREDIT GIVEN!** (5 points)

    $\dfrac{85.5\ km}{hr} \times \dfrac{1\ mile}{1.61\ km} \times \dfrac{1\ hr}{60\ min} \times \dfrac{1\ min}{60\ s} = 0.0148\ \dfrac{mile}{s}$

    Final answer = 0.0148 mile/s (this was rounded to 3 sig figs)