Summer Assignment Part 1

Copy all questions to your notebook in Pen. Do the work in Pencil. Show all the work. On each step round values to one unit and one decimal. a.b*10^n. form.

1) $(8.18 \times 10^{-6})(1.15 \times 10^{-5})$

$(8.2\times10^{-6})(1.2\times10^{-5}) = (8.2)(1.2)\times10^{-6+-5}$

$= 9.84\times10^{-11}$

$= 9.8\times10^{-11}$

2) $(5.8 \times 10^{-6})(2 \times 10^{4})$

3) $(0.8 \times 10^{4})(1.28 \times 10^{6})$

4) $(3.8 \times 10^{-6})(2.37 \times 10^{-3})$

5) $(1.9 \times 10^{-3})(2 \times 10^{4})$

6) $(9.2 \times 10^{5})(4 \times 10^{-3})$

7) $\dfrac{7.8 \times 10^{4}}{8 \times 10^{1}}$

8) $\dfrac{5.3 \times 10^{3}}{7.65 \times 10^{5}}$

9) $\dfrac{4.6 \times 10^{2}}{5.01 \times 10^{-3}}$

10) $\dfrac{7.6 \times 10^{0}}{5.4 \times 10^{-6}}$

11) $\dfrac{5.5 \times 10^{-1}}{5.3 \times 10^{2}}$

12) $\dfrac{2.04 \times 10^{-1}}{2 \times 10^{-2}}$

23) $\dfrac{4 \times 10^{-6}}{5 \times 10^{-1}}$

24) $\dfrac{8.6 \times 10^{0}}{7.87 \times 10^{6}} = \left(\dfrac{8.6}{7.9}\right)\times10^{0-6} = 1.09\times10^{-6}$

$= 1.1\times10^{-6}$

25) $\dfrac{5.03 \times 10^{3}}{6 \times 10^{-4}}$

26) $\dfrac{2.4 \times 10^{5}}{6.4 \times 10^{4}}$

Practice #4

Which of the following shows the numbers in order from least to greatest?

A. $5.7 \times 10^{3}, 3.9 \times 10^{-2}, 1.8 \times 10^{3}, 8.2 \times 10^{-2}$

B. $8.2 \times 10^{-2}, 3.9 \times 10^{-2}, 1.8 \times 10^{3}, 5.7 \times 10^{3}$

C. $1.8 \times 10^{3}, 3.9 \times 10^{-2}, 5.7 \times 10^{3}, 8.2 \times 10^{-2}$

D. $3.9 \times 10^{-2}, 8.2 \times 10^{-2}, 1.8 \times 10^{3}, 5.7 \times 10^{3}$

Hint: make a number line

According to the table, which experiment had the greatest number of bacteria?

Experiment Results

Experiment	Number of Bacteria
W	8.1×10^{5}
X	6.1×10^{5}
Y	4.8×10^{6}
Z	3.2×10^{6}

Copy All Q in Pen show all tour work in pencil. Look for Conversion factors (online)

Use the factor-label method to make the following conversions. Remember to use the appropriate number of sf's in your answer.

Part 2

1. 74 ~~cm~~ x $\frac{1\,m}{100\,cm} = 0.74\,meters$

2. 8.32×10^{-2} kg x $= 83.2\,grams$

3. 55.5 mL x $= 55.5\,cm^3$

4. 0.00527 cal x $= 5.27 \times 10^{-6}\,kcal$

$\frac{10^6\,\mu m}{1\,m} = 9.52 \times 10^2\,micrometers\,(\mu m)$

5. 9.52×10^{-4} m x ? = Mm

6. 41.0 mL x ? $= 0.0410\,L$

7. 6.0×10^{-1} g x ? $= 6.0 \times 10^2\,mg$

8. 8.34×10^{-9} cg x ? $= 8.34 \times 10^{-11}\,g$

9. 5.0×10^3 mm x ? $= 5.0\,m$

10. 1 day x $\frac{24\,h}{1\,day} \times \frac{60\,min}{1\,h} \times \frac{60\,sec}{1\,min} = 86{,}400\,seconds$ example

11. 5×10^4 mm x ? ? $= 5 \times 10^{-2}\,km$

12. 9.1×10^{-13} kg x ? ? $= 9.1 \times 10^{-1}\,ng$

13. 1 year x ? ? $= 8760\,hr$

14. 4.22 cL x $\boxed{\frac{1\,L}{10^2\,cL} x \frac{10^3\,mL}{1\,L} = 4.22\,x10^1\,mL}$ example

15. 1 mile x $\boxed{= 63{,}360\,in}$

Part 2

1. How many nickels could you trade for 250 yen? $1 = 150 yen.

$$\boxed{250\,yen\,x\frac{\$1}{150\,yen}\,x\frac{20\,nickels}{\$1} = 33.3\,nickels \rightarrow 33\,nickels(2\,sig.figs.)}$$

2. Your school club sold 600 tickets to a chili supper. The chili recipe for 10 persons requires 2 teaspoons of chili powder? How many teaspoons of chili powder will you need altogether?

$\boxed{600\,tickets x \quad = 120\,tsp\,chili\,powder}$

3. How many cups of chili powder will you need? Three teaspoons (tsp) equal one tablespoon (TBS) and 16 tablespoons equal 1 cup.

$\boxed{120\,tsp\,x \quad = 2.5\,cups chili\,powder}$

4. How many seconds in a year? (assume 30 days in an average month)

$\boxed{1\,yr\,x\frac{12\,mo}{1\,yr}\,x \quad = 3.11\,x10^7\,seconds}$

$\boxed{120\,tsp\,x\frac{1TBS}{3\,tsp}\,x\frac{1\,cup}{16\,TBS} = 2.5\,cups chili\,powder}$

5. Chloroform is a liquid once used for anesthetic. What is the volume of 5.0 g of chloroform. The density of chloroform 1.49 g/mL

$\boxed{= 3.36mL}$

6. How many inches long is a football field?

$\boxed{100\,yds\,x \quad = 3600\,in}$

$\boxed{5.0\,g\,x\frac{1\,mL}{1.49\,g} = 3.36mL}$

7. How many m^3 is 4.6 cm^3.? Express your answer in scientific notation.

$\boxed{= 4.6\,x10^{-2}\,m^3}$

8. How many mg is 59.0 kg? Express your answer in scientific notation.

$= 5.9\,x10^7\,mg$