

Week 1 Assignment – Part A

Practice with significant figures:

1. How many significant digits are in 43,000?
2. How many significant digits are in 3000.00?
3. How many significant digits are in 0.00032050?
4. How many significant digits are in 900?
5. How many significant digits are in 8.1100?
6. How many significant digits are in 0.00248?

Write these numbers in scientific notation:

7. 72,000
8. 89.0010
9. 580,000,000
10. 0.00000002200
11. 70,000
12. 0.0106
13. What metric units are volume, mass and length measured in?

Round the following numbers to 3 sig figs:

14. 655,412,673
15. 93,080
16. 0.080029
17. 0.006498
18. 829.12
19. 92.2322

Perform the following calculation, being sure to maintain the appropriate number of significant figures.

20. $24.5938 + 1.7 =$
21. $619.4 - 42.1893 =$
22. $539 \times 7.2 =$
23. $211.62 / 38.4 =$

Name: _____

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Week 1 Assignment – Part B

Identify the metric base unit for the following:

1. Length _____
2. Volume _____
3. Mass _____

Give the metric prefix for the following parts of the base units:

4. 0.001 _____
5. 0.000001 _____
6. 0.01 _____
7. 1000 _____

Write the correct abbreviation for each of the following units:

8. kilogram _____
9. meter _____
10. liter _____
11. milligram _____
12. millimeter _____
13. centimeter _____
14. gram _____
15. microgram _____

Which is larger? Circle the correct answer:

16. milligram or kilogram
17. centimeter or millimeter
18. milliliter or liter

Convert the following as indicated:

19. 4500 mL = _____ L
20. 500 mg = _____ g
21. 0.04 L = _____ mL
22. 800 mL = _____ L
23. 2 kg = _____ g
24. 2.5 g = _____ mg
25. 40.5 cm = _____ mm
26. 3 mg = _____ mcg
27. 1.2 g = _____ mg
28. 1.5 L = _____ mL

The standard metric unit of volume, the liter, is equal to how many cm^3 ?

29. _____ cm^3

Week 1 Assignment – Part C

Customary Household Measurements

Unit	Abbreviation	Equivalents
drops	gtts	1 t = 60 gtts
teaspoon	t	-
tablespoon	T	1 T = 3 t
ounce (fluid)	fl oz	1 fl oz = 2 T
cup	cup	1 cup = 8 fl oz
pint	pt	1 pt = 2 cups = 16 fl oz
quart	qt	1 qt = 2 pt = 4 cups = 32 fl oz
ounce (weight)	oz	16oz = 1 lb
pound	lb	-
inches	in	12 in = 1 ft
feet	ft	-
yard	yd	1 yd = 3 ft = 36 in
inches	in	12 in = 1 ft
feet	ft	-
yard	yd	1 yd = 3 ft = 36 in

Approximate Equivalents

1 t = 5 mL = 60 gtts
1 T = 3 t = 15 mL = ½ fl oz
1 fl oz = 30 mL = 6 t
1 L = 1 qt = 32 fl oz = 2 pt = 4 cups
1 pt = 16 fl oz = 2 cups
1 cup = 8 fl oz = 240 mL
1 kg = 2.2 lb
1 in = 2.5 = cm

Complete the following equivalencies:

- 1 kg = _____ lb
- 1 in = _____ cm
- 1 fl oz = _____ mL
- 1 cup = _____ mL
- 30 g = _____ mg
- 6.5 in = _____ cm
- 0.75 mL = _____ L
- 5 fl oz = _____ mL
- 60 mL = _____ T
- 80 kg = _____ lb

Answer the following questions:

- The doctor prescribed 30 mL of a medication per dose for a patient. How many tablespoons should Sam tell the patient to take per dose? _____ T
- A patient received stitches for a laceration that was 5 inches long. Sam needs to record the length in centimeters in his chart. The wound is _____ cm long.

For questions 13 – 16, use the following question prompt: Sam gave the mother of the sick child a 16 oz bottle of liquid medication and told her the child should take 30 mL twice a day.

- How many tablespoons is one dose? _____
- How many total mL will the child take in one day? _____
- How many ounces is this? _____
- How many days will the bottle of medication last? _____

Week 1 Assignment – Part D

Show your work for all numerical problem-solving items below.

1. An unknown substance has a mass of 56.8 g and a volume of 23.4 mL. What is the density of this unknown substance?

2. The densities of the coinage metals (copper, silver and gold) are as follows:

copper = 8.95 g/cm³

silver = 12.59 g/cm³

gold = 19.32 g/cm³

A sample of material is found to weigh 15.12 grams and have a volume of 1.20 cm³. What is the calculated density? The sample is most likely which of the coinage metals listed above?

- a. copper
 - b. silver
 - c. gold
3. Mercury is the only metal which is a liquid at room temperature. The density of mercury is 13.6 g/cm³. What is the mass, in pounds, of 1.00 quart of mercury? [1 liter = 1.057 quart; 1 pound = 453.6 grams]