DIMENSIONAL ANALYSIS AND MEASURING PRACTICE & REVIEW

WHAT ARE METRIC SYSTEM MEASUREMENTS FOR:

1. distance _____   volume _____   mass _____

Convert the following measurements (show all work in your notebook):

2. 987 m = _____ km

3. 1,234,560 mg = _____ kg

4. 456 L = _____ mL

5. 1km = _____ m

6.   1 m = _____cm

7.   1000m = _____ km

8.   1 cm = _____ mm

9.   1.5 L = _____ mL

10. 35 cm^3 = _____ mL

11. 151 mL = _____L

12. 1 m = _____ mm

13. 1 kg = _____ mg

14. 225 kg = _____ lbs

15. 49 in = _____ cm

16.   12 gallons = _____ L

17.   35 mi = _____ km

18.   8 oz. = _____ grams

19.   -40 C = _____ F

20. List the value of each of the following metric prefixes:

Kilo _____   Hecta _____   Deca _____   Deci_____   Centi _____   Milli _____

Name the Equipment

21._____

22._____

23._____
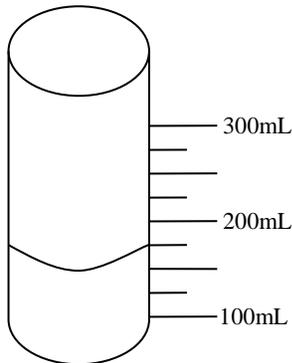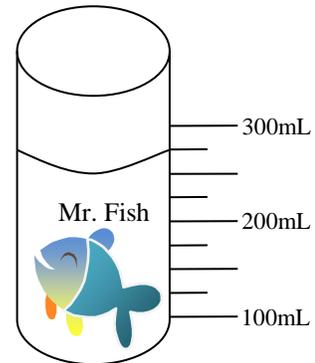

24. _____

DETERMINING VOLUME OF AN IRREGULARLY SHAPED SOLID:

25. What is the volume of Mr. Fish? _____

Graduated cylinder with water **before** fish

300mL

200mL

100mL

Graduated cylinder with water **after** Mr. Fish is added

300mL

Mr. Fish 200mL

100mL

26. How **tall** (length) in **centimeters** is Mr. Fish's graduated cylinder he is swimming in?

* (use your **ruler** to **measure** the height of the graduated cylinder)

27. What is the **width** in cm of Mr. Fish's graduated cylinder?

28. What is the **volume** of a box that is 10 cm in length, 5 cm wide and a height of 3 cm?

29. At what temperature are Celsius and Fahrenheit **equal**? _____

30. What formula can you use to **convert Celsius** to **Fahrenheit**?

31. Convert -78 °C to Fahrenheit _____. This is the temperature of **_dry ice_**.

32. Convert 57 °C to Fahrenheit _____. Highest air temp recorded on earth (1913).

33. What weighs more **100 kg of feathers** _or_ **100 kg of bricks and rocks**?

*100 plants are split into two separate groups in an experiment on natural pest control. One group has lady bugs spread throughout the 50 plants and the other group has nothing added for controlling **aphids** (small parasitic insects) from eating the plants. 86% of the plants with lady bugs were still alive after 4 weeks. 52% of plants without lady bugs were dead after 4 weeks.*

34. Which group above is the **experimental group**? (**plants with lady bugs** _or_ **plants with no lady bugs**)

35. Which is the **control group**? (**plants with lady bugs** _or_ **plants with no lady bugs**)

36. What is the **variable** being tested?

37. What is the **manipulated** (independent variable)?

38. What is the **responding** (dependent variable)?

39. What could you **infer** about the lady bugs from this study?

40. Would it be good to have **multiple variables being tested at once**? Explain why or why not.

41. What is another **manipulated variable** you could test for pest control & its **responding variable**?