Unit 0 Quiz Review

Name: _____

1a) Define quantitative data:

Data that gives a number description of an observation

b) Describe your kitchen in a quantitative way:

There are 20 cabinets in my kitchen

2a) Define qualitative observation:

Data that gives a description of an observation that does not involve a number

b) Describe your kitchen in a qualitative way:

My kitchen has brown cabinets and a white countertop.

3) Measuring

          Mass   Volume   Length   Substance

A. A meter measures? length
B. A gram measures? mass
C. What does a mole measure? substance
D. What does a liter measure? volume

4) How do you convert?

A. Cm to m: move decimal 2 places to the left

B. Mm to cm move decimal 8 places to the right

C. Decimeters to meters: move decimal 1 place to the left

D. liters to microliters: move decimal 6 places to the right

E. Grams to mega grams: move decimal 6 places to the left

F. Kg to grams: move decimal 3 places to the right

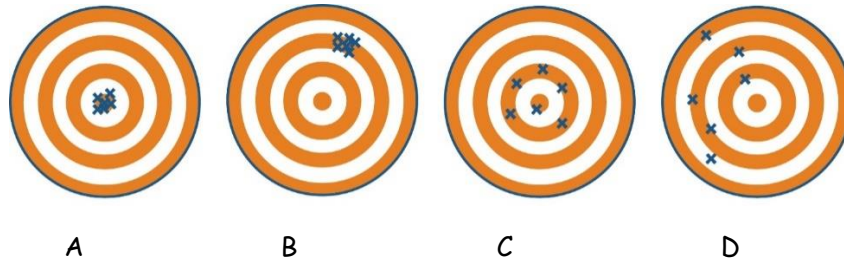G. Meters to decimeters: move decimal 1 place to the right

5) Convert the following:

a) 160 cg = 0.00160 kg   c) 0.00054 hs = 0.54 ds

b) 0.0078 m = 7800 μm   d) 19000 mL = 19 L

A   B   C   D

6) Which picture is:

   a. Accurate and not precise   C
   b. Precise but not accurate   B
   c. Neither accurate nor precise   D
   d. Both accurate and precise   A

7) What is density?

Density is a measure of how close the particles of a substance are to one another. It is calculated by taking the mass divided by the volume of the object. A low density means the particles are spread out.

8a) What is the density of a substance that has a mass of 33.4 grams and a volume of 5 cm^3? Remember to include units!

$$6.7 \text{ g/cm}^3$$

b) A substance has a density of 6.1 g/mL and a volume of 3.4 mL. What is the mass of the substance? Include units!

$$20.8 \text{ g}$$

c) A student performs an experiment with three unknown fluids and obtains the following measurements:

   Fluid A: m = 315 g   V = 200 mL   D = 1.6 g/mL

   Fluid B: m = 268 g, V = 112.5 mL   D = 2.4 g/mL

   Fluid C: m = 147.5 g, V = 375 mL   D = 0.47 g/mL

      Least Dense: Fluid C

      Dense: Fluid A

      Most Dense: Fluid B

d) Fluids A-C in the above question are mixed and allowed to settle out. Which one will float on top, which will be in the middle, and which will sink to the bottom?

Fluid C would float on top, then Fluid A, then Fluid B would sink to the bottom