Name: _____   Date: _____

Question 1: Match the terms in the box below to each description provided (1 term each). Not every term will be used.

Solid	Liquid	Gas
Physical Change	Chemical Change
Mixture	Element	Compound

Description	Term
Methane is composed of a carbon atom with 4 hydrogen atoms attached.	
At room temperature, the particles of methane are far apart and moving quickly in random directions.	
During combustion, methane is converted to carbon dioxide and water through the release of energy.	
Rubbing alcohol contains water with a small amount of isopropanol.	
In rubbing alcohol, the particles are gliding around each other (interacting) within their container.	

Question 2: Convert 68.50°F to Kelvin (Round your answer to two decimal places):

$$T_F = 1.8T_C + 32 \qquad\qquad T_K = T_C + 273.15$$

Question 3-4: Complete the given conversions. Use appropriate significant figures in your answer:

▶ 7400 yards into kilometers   (1 yard = 3.00 feet, 1 mile = 5,280 ft, 1 km = 0.621 miles)

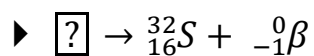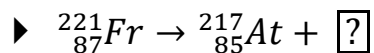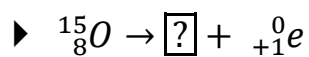▶ 4.75 qts to µ**L**   (1qt = 946 mL)

you can submit your answer in scientific notation to blackboard using "E" for the exponent. E.g. 0.0034 = "3.4E-3"

Question 5: The density of coconut oil is 0.9030 g/mL. You have a recipe that calls for 95.30 g. What volume would you measure out in mL? Use appropriate significant figures.

Question 6: Complete the table for the given isotopes:

Number of Protons	Number of Neutrons	Number of Electrons	Charge	Mass Number	Element Symbol	AZX Notation *(practice)*
			+4	119	Sn	
53		54		127		

Question 7-9: Determine the missing isotope from each nuclear decay: (name the isotope)

▸ $^{15}_{8}O \rightarrow \boxed{?} + \, ^{0}_{+1}e$

▸ $^{221}_{87}Fr \rightarrow \, ^{217}_{85}At + \boxed{?}$

▸ $\boxed{?} \rightarrow \, ^{32}_{16}S + \, ^{0}_{-1}\beta$

Question 10: What elements are represented by the given electronic configurations?

▸ $1s^2 2s^2 2p^3$

▸ $1s^2 2s^2 2p^6 3s^2 3p^5$

▸ $1s^2 2s^2 2p^6 3s^2 3p^6 4s^1$
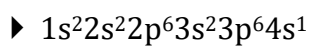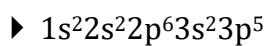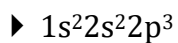
Question 11-12: Draw the electron dot diagrams for the given elements:

▸ Bromine

▸ Magnesium