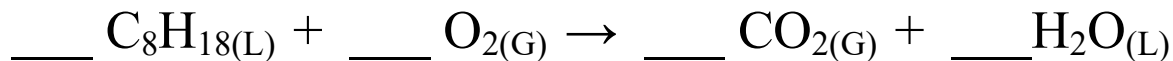


Directions: These assignments are designed to challenge your memories with problems from the “past” that are not allowed to be forgotten. You can use your notes or the BASICS, but please don’t just copy. These will be graded, but if you copy yourself to a 10/10, will you really know it, will you really be challenging yourself, will you really be learning? What’s the point? Learning is fundamental to being in high school. Above all else, don’t be evil.

Use this UNBALANCED chemical equation to do the following problems:



1. If you combust 12.75 moles of octane how many moles of oxygen are consumed?
2. If you react 12.75 moles of octane, how many moles of carbon dioxide form?
3. If you combust octane and produce 437 moles of CO_2 , how many moles of water form at the same time?
4. If you burn a gallon of octane (gasoline) which has mass of 2661.1 grams, how many grams of CO_2 form?

5. If you have 215.0 grams of a pure metal, with volume of 27.32 cm^3 , what metal is it? Mn, Fe, Nb, Po

6. If you have 118.0 grams of aluminum, what is it's volume?

7. If you have 266.0 cm^3 of aluminum, what is it's mass?

Use the symbols $>$ or $<$ or $=$ in the circles below

	Density of		Density of
8	Hydrogen	<input type="text"/>	Helium
9	Nickel	<input type="text"/>	Cobalt
10	Copper	<input type="text"/>	Cobalt
11	Osmium	<input type="text"/>	Iridium
12	Sodium	<input type="text"/>	Water
14	Manganese	<input type="text"/>	Indium