**Heat of Combustion and**

**Nuclear Energy Review**

1. Determine the amount of energy released when the following fuels are combusted: *Be sure to begin by writing out the equation showing the complete combustion of the fuel and balancing it!*
	1. Glucose
	2. Octane
2. For the isotope, 9236Kr, identify the
	1. Atomic number
	2. Charge
	3. Mass number
	4. Number of nucleons

1. Define the following terms:
	1. Radioactive decay
	2. Nuclear fission
	3. Nuclear fusion
2. List the similarities and differences between a coal-fired power plant and a nuclear power plant.
3. Describe how the ***fission reaction*** is controlled in a CANDU nuclear reactor.
4. Identify and ***explain one risk and one benefit*** associated with the use of nuclear fission reactions for generating electricity.
5. Complete each of the following nuclear reactions. Identify the ***unknown product*** and ***state the type of nuclear reaction shown***.





1. Is nuclear energy from the fission of uranium a renewable or a non-renewable energy source? Provide a reason for your answer.
2. A possible reaction for fusion power involves a fusion between helium-3 and deuterium nuclei. The products of the reaction are helium-4 and a proton.
	1. Present the process as a balanced nuclear equation.