

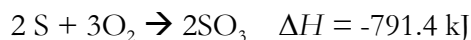
Name \_\_\_\_\_ Period \_\_\_\_\_

## Thermochemistry Worksheet #2

The **molar enthalpy of reaction** ( $\Delta H_{rxn}$ ) is the amount of heat transferred during a reaction. It is reported in kilojoules per mole of reactant. A reaction that produces heat is **exothermic** and has a negative  $\Delta H_{rxn}$ . A reaction that absorbs heat is **endothermic** and has a positive  $\Delta H_{rxn}$ .

**Answer the following questions. Show all work and report answers with units.**

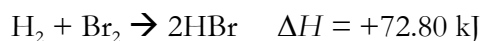
How much heat will be released when 6.44 g of sulfur reacts with excess  $O_2$  according to the following equation?



How much heat will be released when 4.72 g of carbon reacts with excess  $O_2$  according to the following equation?



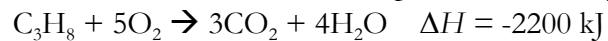
How much heat will be absorbed when 38.2 g of bromine reacts with excess  $H_2$  according to the following equation?



How much heat will be released when 1.48 g of chlorine reacts with excess phosphorus according to the following equation?



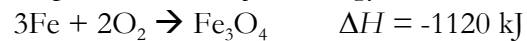
What mass of propane,  $C_3H_8$  must be burned in order to produce 76,000 kJ of energy?



How much heat will be absorbed when 13.7 g of nitrogen reacts with excess  $O_2$  according to the following equation?



What mass of iron must react to produce 3600 kJ of energy?



How much heat will be released when 12.0 g of  $H_2$  reacts with 76.0 g of  $O_2$  according to the following equation?

