

Name: _____ Per _____

Thermochemistry and Calorimetry

Practice Sheet #47

Directions: Give the equation used to solve each problem and answer with the appropriate units. Show all steps in calculations.

1. Calculate the mass of methane (CH_4) that releases 2.93 kJ of heat energy when it is frozen. How many moles of methane are present?
2. A 0.60 g sample of a substance is boiled using 840 J of heat energy. Determine the heat of vaporization of the substance. Identify the substance.
3. A glass at 25 °C weighing 150 g is heated using 3780 J of heat energy. Determine the final temperature of the glass.
4. A 20.0 gram sample of metal is heated from 30.0 °C to 45.0 °C using 72.0 J of heat energy. Determine the specific heat capacity of the metal. Identify the metal.
5. How much energy is required to turn 45.0 g of ice at -10.0 °C into steam at 150.0 °C? How many kJ is this? (

