Name: _____ Date: _____ Hour__

Energy Practice w/ Answers

1) How is the quantity of heat lost by the system related to the quantity of heat gained by the surroundings during an exothermic process?

2) A fast food item contains 544 Calories. Convert this energy to calories (a unit of energy, different from Calories, which is a food calorie) and joules (1 Calorie = 1000 calories; 4.18 J = 1 calorie).

3) How many joules of heat are lost by 3850 kg of liquid water as it cools from 41.2 °C to 12.9 °C?

4) Determine the energy required (in joules) when the temperature of 3.21 grams of liquid water increases by 4.0 °C.

5) Determine the specific heat (cal/g °C and J/g °C) of a 150.0 gram object that requires 62.0 cal of energy to raise its temperature 12.0 °C.

6) Determine the energy required to raise the temperature of 46.2 grams of aluminum from 35.8 °C to 78.1 °C.

7) How much heat (in kJ) is given out when 85.0 g of lead cools from 200.0 °C to 10.0 °C?

8) If it takes 41.72 joules to heat a piece of gold weighing 18.69 g from 10.0 °C to 27.0 °C, what is the specific heat of the gold?

9) A lump of chromium has a mass of 92.5 grams and a temperature of 89.5 °C. It is placed into a calorimeter with 75.2 mL of water at 20.5°C. After stirring, the final temperature of the water, Cr metal, and calorimeter is 27.4 °C. What is the specific heat of Cr metal?