Name _____

Calorimetry

1) How much energy would be needed to change the temperature of 75.0g of water 75.0°C?
23500J

2) How much energy would be lost if the temperature of 50.0g of water dropped from 80.0°C to 20.0°C?
-12600J

3) What is the specific heat of mercury if it requires 2800J of heat to raise the temperature of 100.g 200.°C?
0.14 J/g°C

4) If the specific heat of aluminum is 0.89J/g°C, then how much would the temperature change if 3337.5J of heat were added to 75g?
50.°C

5) How many milliliters of water could be heated to change the temperature of water 10.0°C if 3000.J of heat is added?
71.7 mL

6) Calculate the specific heat of a 150g piece of iron if its initial temperature was 174.89°C and when it was dropped into 30.7g of water and left submerged, the water temperature changed from 22.0°C to 74.64°C?
0.45 J/g°C

7) Calculate the final temperature of the water if 1.23kg piece of lead (C_p=0.128 J/g°C) with an initial temperature of 468°C was placed in a kilogram of water at 23.0°C and left submerged.
39.1°C

8) Calculate the mass of copper placed in 500.g of water if the specific heat of copper is 0.387J/g°C, the initial temperature of the water was 50.4°C, the final temperature of the water was 85.2°C, and the initial temperature of the copper was 350°C.
710.g