**Heat Capacity and Calorimetry**

For Practice Only. Do not hand in!

Given: Cp water = 4.18J/g°C

Part 1. Calculations involving specific heat capacity

1. How many joules are needed to warm 25.5 grams of water from 14.00C to 22.50?

**Ans. 907 joules**

2. The specific heat of gold is 0.128 J/g0C.How much heat would be needed to warm 250.0 grams of gold from 25.00C to 100.00C?

**Ans. 2.40 x 103** **joules**

3. A sample of lead, specific heat 0.138 J/g0C, released 1.20 x 103 joules when it cooled from 93.00C to 29.50C. What was the mass of this sample of lead?

**Ans. 137 grams of Pb**

Calculate the specific heat of platinum if 1092 joules of heat were released when 125 grams of platinum cooled 65.2 °C.

**Ans. 0.134 J/g0C**

Part 2. Calculations involving calorimetry

1. A 185 gram sample of copper at 98.00C was added to 102 grams of water at 20.00C in a perfectly insulated calorimeter. The final temperature of the copper-water mixture was 31.20C. Calculate the specific heat of copper using this data.

**Ans. 0.39 J/g0C**

2. Calculate the final temperature that results from mixing 245 grams of cobalt, specific heat 0.446 J/g0C, at 1420C with 106 grams of water at 24.80C.

**Ans. 48.00C**