Specific heat Lab Name_____

Purpose: to calculate the specific heat of a metal.

Procedure: (1) Weigh cup (2) fill cup 1/2 full of tap water (from sink) and reweigh (3) reassemble calorimeter and take initial temperature (4) gently place hot metal into cup (5) stir and get final temperature (6) weigh the metal chunk (7) Clean up.

Data:

Specific heat of cup	903 J/kg^{o}C
mass of cup	kg
Mass of cup + cold water	kg
T_i of cup + cold water	^{o}C
T_i of metal (hot water)	100 ^{o}C
T_f of cup + water + metal	^{o}C
Mass of metal	kg

Calculations:

Mass of water	kg
ΔT of water	^{o}C
ΔT of cup	^{o}C
ΔT of metal	^{o}C

<--- Why is this 100^{o}?

Questions:

1. How much heat was gained by the water? Q = m c ΔT

2. How much heat was gained by the cup? Q = m c ΔT

3. How much heat must have been lost by the metal? Q total

4. Calculate your specific heat based on the answer from #3 c = Q / m ΔT

5. My metal was _____ and its actual specific heat is _____
(get this info from instructor!)

6. % error = (calculated - actual) / actual * 100

7. Why is there a difference between your value and the accepted value?