**Heat Lost = Heat Gained**

q=mCpΔT Cp water=4.18 J=1cal

1. A 26.5g sample of an unknown metal at 83°C is added to 25.2g of water at 14.6°C. The final temperature of the system is 20°C. What is the specific heat of the metal?
2. A 37g sample of copper at 74.5°C is added to 20g of water at 16.5°C. What is the final temperature of the system? Cp of copper is .385 J/g°C
3. 60g of tin at 100°C were added to 14g water at 5°C. Find the final temperature. The specific heat of tin is .21 J/g°C
4. What mass of gold (Cp=0.126 J/g\*K) can be warmed from 20°C to 60°C when it is added to 10g of water initially at 80°C?