

Name \_\_\_\_\_

## Calculations involving Specific Heat

Answer the following questions involving Specific Heat Calculations.  
Show work, it is the only way to get partial credit on the test.

Gold has a specific heat of $0.129 \text{ J/(g/}^{\circ}\text{C)}$ . How many joules of heat energy are required to raise the temperature of 15 grams of gold from $22^{\circ}\text{C}$ to $85^{\circ}\text{C}$ ?	An unknown substance with a mass of 100 grams absorbs 1000 J while undergoing a temperature increase of $15^{\circ}\text{C}$ . What is the specific heat of the substance?
A 40 gram sample of water at $25^{\circ}\text{C}$ absorbs 500 Joules of energy. What is the final temperature of the water? The specific heat of water is $4.18 \text{ J/(g/}^{\circ}\text{C)}$ .	Graphite has a specific heat of $0.709 \text{ J/(g/}^{\circ}\text{C)}$ . If a 25 gram piece of graphite is cooled from $35^{\circ}\text{C}$ to $18^{\circ}\text{C}$ , how much energy was lost by the graphite?
Copper has a specific heat of $0.385 \text{ J/(g/}^{\circ}\text{C)}$ . A piece of copper absorbs 5000 J of energy and undergoes a temperature change from $100^{\circ}\text{C}$ to $200^{\circ}\text{C}$ . What is the mass of the piece of copper?	45 grams of an unknown substance undergoes a temperature increase of $38^{\circ}\text{C}$ after absorbing 4172.4 Joules. What is the specific heat of the substance?