Prelab 3: The Specific Heat of Aluminum

Print Name _____

Section _____ Date _____ TA _____

Lab Partner _____

1. An aluminum cube of mass (44.28 ± 0.03) grams, with initial temperature of (100.0± 0.0)°C, is immersed in (70.16 ± 0.02) grams of water at (22.3 ± 0.1)°C. After coming to thermal equilibrium, the temperature of the water-aluminum system is (31.5± 0.1)°C. Calculate and **properly report** the specific heat of aluminum (this must include your calculated value and error, both properly rounded, with units).

Show formulas and calculations.

2. Linearize the following equation. Choose ΔT to be the dependent variable and m to be the independent variable.

$$\boldsymbol{k = \frac{Z(\Delta T - b)}{m}}$$

Linearized equation:

Slope: