

Data Table

Item	Step	Symbol	Units	Trial I	Trial II
Type of metal sample	2/16			Aluminum	BRASS
Mass of metal sample	2	m_s	grams	37.2	64.2
Room temperature	4	T_R	$^{\circ}\text{C}$	23 $^{\circ}\text{C}$.	23 $^{\circ}\text{C}$.
Mass of cup and water	5	m_{c+w}	grams	282.7	283.2
Mass of empty cup	5	m_c	grams	56.3	56.3
Mass of water	5	m_w	grams	226.4	226.9
Initial temperature of metal sample (boiling water)	7	t_{1s}	$^{\circ}\text{C}$	100 $^{\circ}\text{C}$	100 $^{\circ}\text{C}$
Initial water temperature	8	t_{1w}	$^{\circ}\text{C}$	19.5 $^{\circ}\text{C}$	18.64 $^{\circ}\text{C}$
Final water temperature	10	t_{2w}	$^{\circ}\text{C}$	22.07 $^{\circ}\text{C}$	20.58 $^{\circ}\text{C}$
Specific heat of water	11	c_w	$\frac{\text{cal}}{\text{g}\cdot^{\circ}\text{C}}$	1	1
Water equivalent of calorimeter	11	m_c	grams	16.3	16.3
Heat gained by calorimeter and its water	12	Q	calories	752.37	471.808
Measured specific heat of metal sample	13	$c_{s\text{meas}}$	$\frac{\text{cal}}{\text{g}\cdot^{\circ}\text{C}}$	1519.57	
Accepted specific heat of sample	14	$c_{s\text{accept}}$	$\frac{\text{cal}}{\text{g}\cdot^{\circ}\text{C}}$	.215	.092
Percent Error	14	%	%	706676.7	