5. $q_{metal} = -3190.4\,J$ $q_{water} = \_\_\_\_\,J$

$T_{final} = 45.9°C$ $T_{ini} = 91.3°C$ $\Delta T = \_\_\_\_\,°C$

$C_{metal} = 0.900\,J/g·°C$ $m = \_\_\_\_\,g$

① $q_{water} = -q_{metal}$

$+3190.4\,J \quad -3190.4\,J$

② $\Delta T = T_{final} - T_{ini}$

$= 45.9°C - 91.3°C$

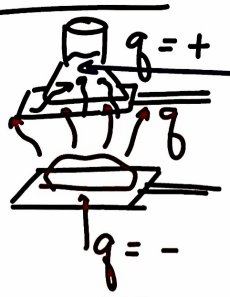
$\Delta T = -45.4°C$

③ $m = \dfrac{q}{C \cdot \Delta T}$

$= \dfrac{-3190.4\,J}{0.900\,J/g·°C \cdot -45.4°C}$

$m = 32.68\,g$ (metal)

Pre-Lab



m_{water}: 20 g (20mL) *

m_{chips}: _____ g

T_{final}: _____ °C

T_{ini}: _____ °C

ΔT *

$\Delta T = T_{final} - T_{ini}$

larg °C small °C

$\Delta T = +$ ↑

$q_{water} = C_w \cdot m_w \cdot \Delta T$

$q_{chip} = -q_{water}$

$g/g = \dfrac{q_{chip}}{m_{chip}}$