

Name keyPeriod All**Quiz 5 – Heat and Temperature Conversions**

20 Points

Convert the following measurements to the requested unit:

319.6K, convert to °C ($^{\circ}\text{C} = \text{K} - 273.15$) $\text{K} = \text{C} - 273.15$ $-1 = 319.6\text{K} - 273.15$ $= \underline{46.5^{\circ}\text{C}}$	-15.9°C, convert to K ($\text{K} = ^{\circ}\text{C} + 273.15$) $\text{K} = \text{C} + 273.15$ $-1 = -15.9^{\circ}\text{C} + 273.15$ $= \underline{257.3\text{K}}$
5162.6J, convert to cal ($1\text{cal} = 4.184\text{J}$) $\frac{5162.6\text{J}}{4.184\text{J/cal}} = \underline{1233.89\text{cal}}$	512.6kcal, convert to kJ ($1\text{kcal} = 4.184\text{kJ}$) $\frac{512.6\text{kcal}}{4.184\text{kJ/kcal}} = \underline{2144.72\text{kJ}}$

Name keyPeriod All**Quiz 6 – Specific Heat**

20 Points

For the following systems find the heat required to perform the following temp. changes.

A: $q_B = 345.0\text{J}$ $c = 1.300\text{J/g}^{\circ}\text{C}$ $m = 140.0\text{g}$ $\Delta T = \underline{\hspace{1cm}}$ $^{\circ}\text{C}$ $\Delta T = q / (c \cdot m)$ $\Delta T = \frac{q}{c \cdot m} = \frac{345.0\text{J}}{1.300\text{J/g}^{\circ}\text{C} \cdot 140.0\text{g}}$ $\Delta T = \underline{1.90^{\circ}\text{C}}$	B: $q_B = -1038.2\text{J}$ $c = 0.800\text{J/g}^{\circ}\text{C}$ $\Delta T = -12.5^{\circ}\text{C}$ $m = \underline{\hspace{1cm}}$ g $m = q / (c \cdot \Delta T)$ $m = \frac{q}{c \cdot \Delta T} = \frac{-1038.2\text{J}}{0.800\text{J/g}^{\circ}\text{C} \cdot -12.5^{\circ}\text{C}}$ $m = \underline{103.82\text{g}}$
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Name keyPeriod All**Quiz 7 – Specific Heat with Change in Temperature**

20 Points

For the following systems find the heat required to perform the following temp. changes.

Equations

 $\Delta T = T_{\text{final}} - T_{\text{ini}}$ $q = c \cdot m \cdot \Delta T$ $m = q / (c \cdot \Delta T)$ $\Delta T = q / (c \cdot m)$

$T_{\text{final}} = 39.2^{\circ}\text{C}$, $T_{\text{ini}} = 18.9^{\circ}\text{C}$; $\Delta T = \underline{\hspace{1cm}}$ $^{\circ}\text{C}$ $\Delta T = T_{\text{final}} - T_{\text{ini}}$ $= 39.2^{\circ}\text{C} - 18.9^{\circ}\text{C}$ $\Delta T = \underline{20.3^{\circ}\text{C}}$
$q = 1430.2\text{J}$, $c = 0.323\text{J/g}^{\circ}\text{C}$, $\Delta T = \underline{\text{above}}$ $^{\circ}\text{C}$; $m = \underline{\hspace{1cm}}$ g $m = \frac{q}{c \cdot \Delta T}$ $m = \frac{1430.2\text{J}}{0.323\text{J/g}^{\circ}\text{C} \cdot 20.3^{\circ}\text{C}}$ $m = \underline{218.12\text{g}}$