A 75-g sample of silicon is at 31 Degree Celsius. If 750 Cal of energy is transferred to this sample. The final temperature of silicon (in Degree Celsius) is:

[Note: the specific heat capacity (c) for silicon is 0.168 cal/g.^{o}C]

- a. 373.5
- b. 150
- c. 59.5
- d. 90.5
- e. 84.5

Clear my choice

11 $[c = 0.168\ cal/g.C]$

$Q = mc\Delta t$

$750\ cal = 75g * 0.168\ cal/g.C * (t_2 - 25C)$

$[t_2 = 84.5C]$

12- The physical units of the specific heat capacity is *

- ○ Joul/(K.kg)
- ○ Joul/(K)
- ○ (K.kg)/Joul
- ○ (Joul.kg)/K

[2] $c = \frac{C}{m} = \frac{J/K}{kg} = Joul\,/(kg \cdot K)$

13- A Brass cube (mass = 0.5 kg and specific heat capacity C = 380 J/kg·°C) was initially at temperature T = 90 °C. How much energy (in kJ) is lost to the surroundings if the temperature of the cube falls to 20 °C? *

- ○ 26.6
- ◉ 13.3
- ○ 2.8
- ○ 45.7

- ○ 14- one of the error's sources for the specific heat capacity experiment

[3] $Q = mc\Delta t$

$= (0.5\,kg) \times (380\,J/kg.C) \times (20 - 90)\,C$

$Q = 13300\,J = 13.3\,kJ$

14- one of the error's sources for the specific heat capacity experiment *

- ○ The big hols in the calorimeter
- ○ The environmental temperature
- ○ The atmospheric pressure
- ◉ The thermometers

[4] [a] The big hole in the calorimeter