

Questão 1 -

$C_{rec} = 40 \text{ cal/}^\circ\text{C}$   
 $\Delta Q_1 = m \cdot c \cdot \Delta T = 200 \cdot 0,5 \cdot 20 = 2000 \text{ cal}$   
 $\Delta Q_{rec} = C \cdot \Delta T = 40 \cdot 20 = 800 \text{ cal}$   
 $\Delta Q_2 = m \cdot c \cdot \Delta T = 100 \cdot 1 \cdot (-30) = -3000 \text{ cal}$   
 $\Delta Q_{sobra} = -200 \text{ cal}$   
 $\Delta Q = m' \cdot L_{fusão} \Rightarrow 200 = m' \cdot 80 \Rightarrow m' = 2,5 \text{ g}$

a)  $0^\circ\text{C}$     b)  $m_{H_2O} = 102,5 \text{ g}$

Questão 2 -

$$\Delta Q_{real} = \Delta Q_{sól} + \Delta Q_{ap}$$

$$V_0 \cdot \gamma \cdot \Delta T = V_0 \cdot \gamma \cdot \Delta T + 200$$

$\text{real}$ 
 $\text{sól}$

$$1000 \cdot \gamma \cdot 100 = 1000 \cdot 3 \cdot 2 \cdot 10^{-5} \cdot 100 + 200$$

$$\gamma = \frac{6 + 200}{10^5} = 206 \cdot 10^{-5}$$

$\gamma = 2,06 \cdot 10^{-3} \text{ }^\circ\text{C}^{-1}$

Questão 3 -

	A	C
120°A		200°C
t		t
20°A		0°C

$$\frac{t-20}{100} = \frac{t}{200}$$

$$t-20 = \frac{t}{2}$$

$$2t-40 = t$$

$t = 40^\circ\text{A} = 40^\circ\text{C}$