

**PADRÃO DE RESPOSTAS**  
 (VALOR POR QUESTÃO: 2,00 PONTOS)

Questão	Resposta
1	$\Delta C = 4,5 - (-3,5) = 8 \text{ } ^\circ\text{C}$ $\Delta C = \Delta K = 8$
2	$Q = P \times t = 100 \times 30 = 3000 \text{ cal}$ $Q = mc\Delta T = 500 \times c \times 40 = 3000 \text{ cal}$ $20000 c = 3000 \text{ cal/g } ^\circ\text{C}$ $c = \frac{3}{20} = 0,15 \text{ cal/g } ^\circ\text{C}$ Capacidade térmica $C = mc = 75 \text{ cal/}^\circ\text{C}$ ou $C = \frac{Q}{\Delta T} = \frac{3000}{40} = 75 \text{ cal/g } ^\circ\text{C}$
3	$p = m \times v = 70 \times 20 = 1400 \text{ kg} \times \text{m/s}$ $E = \frac{1}{2} m \times v^2 = \frac{1}{2} 70 \times 400 = 14000 \text{ J}$
4	$580 = 1450t$ $t = \frac{580}{1450} = 0,4 \text{ s}$
5	$380 = 0 + 0 + \frac{1}{2} a \times (43)^2 \therefore a = \frac{760}{1849} \text{ m/s}^2$ $F_R = 3000 \times \frac{760}{1849} \cong 1233 \text{ N}$
6	$\frac{-5}{20} = -\frac{p'}{50} \Rightarrow p' = 12,5 \text{ cm}$
7	$V_{AB} = r \times i = 200 \times 127 \times 10^{-3} = 2 \times 12,7 \text{ V} = 25,4 \text{ V}$ $V_{BC} = (R + r)i \Rightarrow 127 = (R + 200) \times 127 \times 10^{-3}$ $R = 1000 - 200 = 800 \text{ } \Omega$ A potência dissipada é $P = iV_{AB} = 127 \times 10^{-3} \times 25,4 = 3,2 \text{ W}$
8	$Q = P \times \Delta t = 1273 \text{ W} \times 165 = 2,1 \times 10^5 \text{ J}$ $1 \text{ cal} = 4,2 \text{ J}$ $Q = \frac{2,1 \times 10^5}{4,2} = 50 \text{ kcal}$ $Q = mc\Delta T = 1000 \text{ g} \times 1 \times \Delta t = 50 \text{ kcal}$ $\Delta T = \frac{50 \times 10^3}{1000} = 50 \text{ } ^\circ\text{C}$
9	$\Delta P = 10^3 \times 10 \times 1762$ $\Delta P = 176,2 \times 10^5 \text{ N/m}^2 = 176,2 \text{ atm}$
10	$ F_{\text{mag}}  =  F_{\text{cent}} $ $ F_{\text{mag}}  = qvB$ $ F_{\text{cent}}  = \frac{mv_o^2}{R}$ $R = \frac{mv_o}{qB}$