

Problema 6.3

<p>a)</p>	<p>Volumul sârmei din ghem $V = \frac{m}{\rho_1}$ (1.0 p.)</p> <p>$\rho_1 = 8,9 \frac{\text{g}}{\text{cm}^3} = 8900 \frac{\text{kg}}{\text{m}^3}$ (0.5 p.)</p> <p>Numeric $V = \frac{17,8 \text{ kg}}{8900 \frac{\text{kg}}{\text{m}^3}} = 0,0002 \text{ m}^3$ (0.5 p.)</p> <p>Lungimea sârmei $l = \frac{V}{S}$ (1.0 p.)</p> <p>$2 \text{ mm}^2 = 0,000002 \text{ m}^2$ (0.5 p.)</p> <p>Numeric $l = \frac{0,0002 \text{ m}^3}{0,000002 \text{ m}^2} = 100 \text{ m}$ (0.5 p.)</p>	<p align="center">4.0 p.</p>
<p>b)</p>	<p>Masa 1 m de sârmă $m_l = \frac{m}{l}$ (0.5 p.)</p> <p>$1 \text{ kg} = 1000 \text{ g}$ (0.5 p.)</p> <p>Numeric $m_l = \frac{1,78 \text{ kg}}{100 \text{ m}} = 0,0178 \text{ kg} = 17,8 \text{ g}$ (0.5 p.)</p>	<p align="center">1.5 p.</p>
<p>c)</p>	<p>Volumul sârmei $V = S \cdot l$; (1.0 p.)</p> <p>Masa sârmei de cupru $m_1 = \rho_1 S l_1$ (0.5 p.)</p> <p>Masa sârmei de aluminiu $m_2 = \rho_2 S l_2$ (0.5 p.)</p> <p>$m_1 = m_2$ (0.5 p.) $\Rightarrow \rho_1 S l_1 = \rho_2 S l_2$ (0.5 p.) \Rightarrow</p> <p>$\Rightarrow l_2 = \frac{\rho_1}{\rho_2} l_1$ (1.0 p.)</p> <p>Numeric $l_2 = \frac{8,9 \frac{\text{g}}{\text{cm}^3}}{2,7 \frac{\text{g}}{\text{cm}^3}} \cdot 1 \text{ m} \approx 3,3 \text{ m}$ (0.5 p.)</p>	<p align="center">4.5 p.</p>
<p align="right">Total max</p>		<p align="center">10.0 p.</p>