

EXERCÍCIO FÍSICA 2:

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$$L = 50 \text{ cm} = 0,5 \text{ m}$$

$$T = 1,5 \text{ s}$$

$$R_V = 5900 \text{ km} = 5900 \cdot 10^3 \text{ m}$$

$$G = 6,67 \cdot 10^{-11} \frac{\text{N} \cdot \text{m}^2}{\text{kg}^2}$$

a) $M_V = ?$

$$g = \frac{4\pi^2 L}{T^2}$$

;

$$g = G \frac{M_V}{R_V^2}$$

$$\frac{4\pi^2 L}{T^2} = G \frac{M_V}{R_V^2}$$

$$M_V = \frac{4\pi^2 L \cdot R_V^2}{G \cdot T^2}$$

$$M_V = \frac{4\pi^2 \cdot 0,5 \cdot (5900 \cdot 10^3)^2}{6,67 \cdot 10^{-11} \cdot 1,5^2} = 4,58 \cdot 10^{24} \text{ kg}$$