

$$V = \frac{4}{3} \pi * R^3$$

$$V_1 = \frac{4}{3} \pi * R_1^3 = \frac{4}{3} \pi * (2R)^3 = 8 * \frac{4}{3} \pi * R^3 = 8V$$

$$V_2 = \frac{4}{3} \pi * R_2^3 = \frac{4}{3} \pi * (R)^3 = V$$

утв.1 – неверно

$$m = V * \rho$$

$$m_1 = V_1 * \rho_1 = 8V * \frac{\rho}{4} = 2 * V * \rho = 2m$$

$$m_2 = V_2 * \rho_2 = V * \rho = m$$

утв.2 – неверно

$$g = \frac{Gm}{R^2}$$

$$g_1 = \frac{Gm_1}{R_1^2} = \frac{G * 2 * m}{(2R)^2} = \frac{1}{2} \frac{Gm}{R^2}$$

$$g_2 = \frac{Gm_2}{R_2^2} = \frac{G * m}{R^2} = \frac{Gm}{R^2}$$

утв.3 – верно

$$g = \frac{v^2}{R}$$

$$v = \sqrt{g * R}$$

$$v_1 = \sqrt{g_1 * R_1} = \sqrt{\frac{1}{2} \frac{Gm}{R^2} * 2R} = \sqrt{\frac{Gm}{R^2} * R}$$

$$v_2 = \sqrt{g_2 * R_2} = \sqrt{\frac{Gm}{R^2} * R}$$

утв.4 – верно

$$T = \frac{2 * \pi * R}{v}$$

$$T_1 = \frac{2 * \pi * R_1}{v_1} = \frac{2 * \pi * 2 * R}{\sqrt{\frac{Gm}{R^2} * R}}$$

$$T_2 = \frac{2 * \pi * R_2}{v_2} = \frac{2 * \pi * R}{\sqrt{\frac{Gm}{R^2} * R}}$$

утв.5 – неверно