

A1 $q = \frac{\Delta Q}{\Delta t} = \frac{6}{4} = 1.5 \text{ мкС}$ (3)

A2 $\left. \begin{aligned} 2\pi R = v \cdot T \\ \pi R = v \cdot t \end{aligned} \right\} \Rightarrow t = \frac{T}{2}$ (2)

A3 $F_1 = F_2$ по 3-му закону Ньютона (4)

A4 $F = G \frac{m_1 m_2}{r^2} = 6.7 \cdot 10^{-11} \frac{6 \cdot 10^{24} \cdot 7 \cdot 10^{22}}{(4 \cdot 10^8)^2} = 2 \cdot 10^{20} \text{ Н}$ (4)

A5 $\Delta h = 3h - 2h = h$ (1)

A6 $E = \frac{kx^2}{2} \Rightarrow E_1 = E_2$ (1)

A7 $T = \frac{\lambda}{v} = \frac{0.68}{340} = 2 \cdot 10^{-3} \text{ с}$ (4)

A8 $F = m_2 g = (m_1 + m_2) a \Rightarrow m_1 = 3m_2$ (4)

A9 $mu = m v \Rightarrow u = 0.09 \text{ м/с} = 9 \text{ см/с}$ (1)

A10 $\left. \begin{aligned} PV = 2RT_1 \\ 3PV = 3RT_2 \end{aligned} \right\} \Rightarrow T_2 = 2T_1$ (2)

A11 $\left. \begin{aligned} P_1 = \frac{2}{3} n \epsilon \\ P_2 = \frac{2}{3} \cdot \frac{h}{4} \cdot 4 \epsilon \end{aligned} \right\} \Rightarrow P_2 = P_1$ (1)

A12 $p = \text{const}$ (1)

A13 $Q = cm \Delta t = 2.6 \cdot 10^5 \text{ Дж}$ (1)

A14 $V = v \Delta t \Rightarrow A = 0 \Rightarrow \Delta U = Q = 3 \text{ кДж}$ (4)

A15 $A = S_{\text{поверхности}} = \frac{6+3}{2} \cdot 10^5 \cdot (0.6 - 0.2) = 180 \text{ кДж}$ (3)

A16 $c = \frac{220 \text{ В}}{d} \Rightarrow$ (1)

A17 $F = k \frac{q_1 q_2}{r^2} \Rightarrow$ (4)

A18 $\left. \begin{aligned} R_1 = \frac{3}{2} R \\ R_2 = R \end{aligned} \right\} \Rightarrow \Delta R = 95 \text{ к} = 10 \text{ м}$ (3)

A19 $P = \frac{U^2}{R} \Rightarrow R = \frac{U^2}{P} = \frac{220^2}{60} = 807 \text{ Ом}$ (2)

A20 (4)

A21 (4) (несколько A1920)

A22 $E = P \cdot t = 5 \cdot 10^{-7} \cdot 10 = 50 \text{ нДж}$ (4)

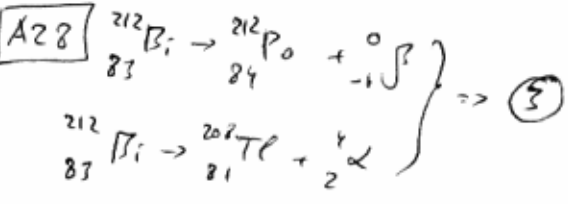
A23 $\epsilon = \frac{\Delta U}{\Delta t} = 10^{-7} \cdot 0 = 0$ (4)

A24 $E = \frac{U}{d} = \frac{10}{0.2} = 50 \text{ В/м}$ (4)

A25 (3)

A26 $P = \frac{h}{\lambda} \Rightarrow \frac{P_1}{P_2} = \frac{\lambda_2}{\lambda_1} = \frac{7}{3}$ (1)

A27 $\left. \begin{aligned} z = 9 \\ A = 9 + 13 = 22 \end{aligned} \right\}$ (2)



(Поискать в энциклопедии!)

A29 $h \frac{c}{\lambda} = A \Rightarrow \lambda = \frac{hc}{A} = \frac{6.6 \cdot 10^{-34} \cdot 3 \cdot 10^8}{3 \cdot 10^{-13}} = 660 \text{ нм}$ (1)

A30 (2)

B1

A	5	B
1	3	1

B2 $PV = 2P(V - 150) \Rightarrow V = 300 \text{ Дж}$

B3 $F = k \frac{q_1 q_2}{r^2} = 9 \cdot 10^9 \frac{20 \cdot 10^{-9} \cdot 40 \cdot 10^{-9}}{(0.2)^2} = 900072 \text{ Н} = 0.72 \text{ мН}$

B4 $\epsilon = \text{Вектор} \sin \alpha = 0.5 \cdot 0.2 \cdot 1 \cdot \sin 30^\circ = 0.05 \text{ В}$