

۴۷ - خلی آسان $\rho = \frac{J}{S} \xrightarrow{J = \rho \cdot m} \frac{KJ \cdot m^3}{S^2 \cdot S} = \frac{KJ \cdot m^3}{S^3}$ $\frac{1}{S^3}$

۴۷ - خلی آسان $\epsilon = 2 \times 10^{-3} \rightarrow 2 \times \sin \frac{250 \times 2}{1000} \times 2 = 2 \times \sin \frac{\pi}{4} = 2A$ $\frac{3}{S}$

۴۸ - سان ρ : میدان سیم در ρ بیس

درون سو \rightarrow \otimes $\rightarrow I$: میدان سیم در ρ

$\frac{I_1}{I_2} = \frac{d_2}{d_1} \rightarrow d_1 > d_2 \rightarrow I_1 > I_2$ $\frac{1}{S}$

۴۹ - خلی آسان : بسیار فقط به منبع بستگی دارد $\frac{2}{S}$

۵۰ \rightarrow $\frac{g_2}{g_1} = \left(\frac{r_1}{r_2}\right)^2 \rightarrow \frac{g_2}{10} = \left(\frac{4000}{10000}\right)^2$ $\frac{1}{S}$

$\rightarrow g_2 = 1094 \rightarrow W = mg_2 \rightarrow 4000 \times 1094 = 4.376 \times 10^6$

۵۱ - $\alpha = \frac{v_2 - v_1}{t} \xrightarrow{v_2 = 0, v_1 = 20} \frac{0 - 20}{2} = -10$ $\frac{1}{S}$

$F = m \cdot a \xrightarrow{m = 10} 10 \times 4376 = 43760 N$ $\frac{1}{S^2}$

۵۲ - سان $\frac{I_2}{I_1} = \left(\frac{r_1}{r_2}\right)^2 \rightarrow \frac{I_2}{91} = \left(\frac{40}{140}\right)^2$ $\frac{2}{S}$
 $I_2 = 14$

۲۲ - $\lambda = 0.15 \text{ m}$

$A = 8 \text{ cm}$

$\frac{\lambda}{T} = v \rightarrow \frac{0.15 \text{ m}}{T} = 10 \rightarrow T = 0.015 \text{ s} \quad 0.015 \text{ s} = \frac{T}{\nu}$

$\nu \times 8 \text{ cm} = 10 \text{ cm} \quad \nu A = 10 \text{ cm} \rightarrow \nu = 1.25 \text{ cm}^{-1}$
 $\mu = 1$

۲۳ - $T = \frac{\nu \lambda}{\nu} \rightarrow T = \frac{1}{\nu} \quad \frac{1}{\nu} = 1.5 \text{ T} = 1.5 \times 3 \times \pi$
 $\frac{\lambda}{10} = \lambda \rightarrow \nu \times 10 \text{ cm} = 8 \text{ cm} = \nu A = 10 \text{ cm} \rightarrow \nu = 1.25 \text{ cm}^{-1}$

$T = \frac{v}{\lambda} = \frac{1}{\nu} \quad \frac{1}{\nu} = T + \frac{T}{\nu} \rightarrow \Delta \nu = \nu A$
 $\Delta \nu = \nu \times A = 8 \text{ cm} \rightarrow \nu A = 8 \text{ cm} \times \frac{1}{\nu} \rightarrow A = 8 \text{ cm} \times \nu$
 $\nu A = 8 \text{ cm} \rightarrow \nu = 1 \text{ cm}^{-1} \rightarrow A = 8 \text{ cm}$

۲۴ - $\omega = \frac{m}{m_0} = \frac{1}{\gamma^n} \rightarrow \frac{1}{\lambda} = \frac{1}{\gamma^n} \rightarrow \nu = 1$

$T \nu = \lambda \rightarrow T \times 1 = 1 \text{ cm} \rightarrow T = 1 \text{ cm} \quad \nu = 1$

۲۵ - $\omega = \frac{m}{m_0} \quad E = hf \rightarrow E \times 10^{-10} \times \nu \times 10^{10} = 1.012 \text{ eV} = \dots$

$\frac{-ER}{n'^2} = \frac{-ER}{n^2} \rightarrow \frac{n'^2}{n^2} = 1$

$\Delta \lambda = \frac{1}{\nu} = \frac{1}{R} \left(\frac{1}{n'^2} - \frac{1}{n^2} \right) \rightarrow \frac{1}{\nu} = \frac{1}{100} \left(\frac{1}{\epsilon^2} - \frac{1}{\nu^2} \right)$

۲۶ - $\epsilon + \nu = \nu$

$\nu = \frac{100 \times 14 \times 89}{\nu^2} \approx 23 \text{ V}$

39- $\gamma d = \frac{d}{\sqrt{\frac{q_1}{q_2}} - 1} \rightarrow \sqrt{\frac{q_1}{q_2}} = \frac{\mu}{\gamma} \rightarrow \left| \frac{q_1}{q_2} \right| = \frac{\gamma}{\epsilon} = -\frac{\gamma}{\epsilon}$

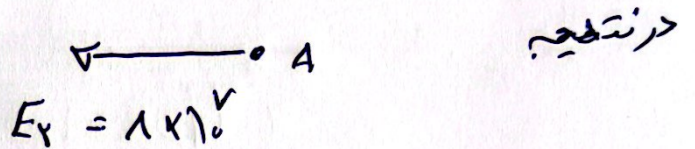
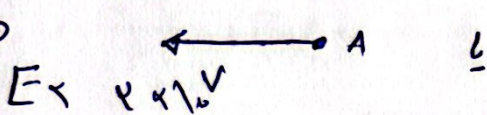
$q_1 \cdot q_2 < 0 \rightarrow \epsilon$

40-

سیوا

$E_1 = \frac{9 \times 10^9 \times 1 \times 10^{-9}}{1 \times 10^{-6}}$
 $E_2 = \frac{9 \times 10^9 \times 2 \times 10^{-9}}{9 \times 10^{-6}}$
 $\rightarrow \Delta \times 10^6$

$q_2 < 0$



$\frac{9 \times 10^9 \times |q_2| \times 10^{-9}}{36 \times 10^{-6}} = \frac{1 \times |q_2| \times 10^{-9}}{\epsilon}$
 $\rightarrow 1 \times 10^6 \rightarrow |q_2| = 32 \rightarrow q_2 = -32$
 $\rightarrow 2 \times 10^6 \rightarrow |q_2| < 1 \rightarrow q_2 = -1$

41-

تلفات انرژی تبدیل $\Delta U < 0$ = رها شده و حرکت کرده
 $|\Delta U| = V \cdot q = \frac{2 \times 10^6}{\epsilon} \times \Delta \times 10^{-3} = \frac{2 \times 10^6}{\epsilon} \times \Delta \times 10^{-3} = V \Delta m J$
 .. تلفات μ

42- $R = P \times \frac{d}{A} \rightarrow 10 \times 10^{-3} \times \frac{17000}{81 \times 10^{-6}}$

دقت شود P داده شود

$\frac{R}{\Omega m}$

$\rightarrow R = 1$

! عمل

43 - $R_T = \frac{(1 + \alpha \Delta R) \times 10}{1 + \alpha \Delta R \times 10} \xrightarrow{\text{عدد زاری}} R = 1 \text{ } \epsilon$

47 - $\mathcal{E} - IR \rightarrow K = 1 \Delta - \gamma I \rightarrow Z = \mathcal{E} \rightarrow I = \frac{\mathcal{E}}{R + P} \rightarrow R_T = \mathcal{E}$

48 - $\mathcal{E} - \mathcal{E}$

49 - $1 - 1$

44 - $\mathcal{E} = \frac{\Delta A}{f} \times B \times N \rightarrow \mathcal{E} = 1 \text{ mV} = \frac{\gamma \times 1}{\gamma \times 1 \cdot \epsilon} \times \dots \approx C \text{ } \epsilon$

45 - Energy
 (a) $P_A = P_B + (P \times 1.0 \times 1, \epsilon) \rightarrow P = 1200$
 (b) $P_B = (P \times 1.0 \times 1, \gamma) + 100000$

46 - $\Delta K = W_f \rightarrow 17000 = \frac{1}{\gamma} \times 1000 \times (\frac{v^2}{2} - \gamma \gamma) \rightarrow v = \gamma \frac{km}{h}$

48 - $\Delta L = L_0 \alpha \Delta \theta \rightarrow 2000 \times 1 \epsilon \times 10^{-4} \times 10 = 0.1 \epsilon \text{ cm} = 1.1 \epsilon \text{ mm}$

49 - $m(\frac{1}{2} \Delta \theta + L_f + C_r \Delta \theta)$
 $\gamma \left(\frac{1 \times 10}{\epsilon \gamma} + \frac{1 \times 10}{\gamma \gamma \gamma} + \frac{1 \times 10}{\epsilon \gamma} \right) = 1299 \text{ kJ}$

$$v_1 = v_p = -v_1 \begin{cases} \rightarrow v_r = 10 \\ \rightarrow v_1 = -10 \end{cases} \rightarrow a = \frac{v_0}{\Delta} \quad \text{①}$$

$$|v| = 8 \begin{cases} \rightarrow s_0 = 10 \\ \rightarrow s_1 = 20 \end{cases}$$

$$\rightarrow v = a + t \cdot 0 \rightarrow \epsilon t - 10$$

$$\frac{v_{t_1+t_r}}{v} = \frac{v_1+v_r}{v} \quad \text{چون شتاب ثابت است}$$

$$\leq s_{v,d} = 20 \quad \underline{\epsilon =}$$

$$v_2 - \text{①} \begin{pmatrix} 0 & 10 \\ 1.9 & 20 \end{pmatrix} \rightarrow v = \frac{10}{\Delta} \epsilon \rightarrow \Delta \rightarrow v_v = 14$$

$$\text{②} \begin{pmatrix} 11.9 & 20 \\ 10 & 10 \end{pmatrix} \rightarrow v = \frac{-10}{\Delta} \epsilon + \epsilon \Delta \rightarrow v_{12} = 21$$

$$a = \frac{v_r - v_1}{\Delta t} \rightarrow \frac{21 - 14}{12 - 7} = \frac{7}{5} = 1.4 \quad \underline{1.4}$$

$$v_3 - \begin{matrix} \epsilon \rightarrow 0 & \Delta x = 0.1a \\ \delta \rightarrow 2 & \Delta x = 1.1\Delta x \end{matrix} \rightarrow \begin{matrix} v_{\epsilon} = 0 \\ v_1 a + v_0 \end{matrix}$$

$$\rightarrow \epsilon t + 10 \xrightarrow{t=2} v = 1 \quad \underline{1}$$

$$v_{\epsilon} - \text{Cinnet: } \frac{-v_0}{a} \rightarrow \frac{-10}{-1.4} = 7.14$$

$$M = 20 \begin{cases} \rightarrow t_1 = 1 \\ \rightarrow t_2 = \epsilon \end{cases} \quad v = -\epsilon t + 10$$

$$\begin{matrix} v_{v,d} = 0 \\ v_{\epsilon} = -4 \end{matrix} \rightarrow \frac{v_1 + v_r}{v} = v_{ave} \rightarrow \frac{0 - 4}{v} = -1.4 \quad \underline{1.4}$$

L $\frac{v_{t_1+t_r}}{v} = t_r > t_1$ چون شتاب ثابت است

۷۵ -

بایر ۲ (۱)

بایر ۲ (۲)

۳

صعب (۳)

بایر با وزن (۴)

سال صفدری - ارومیه