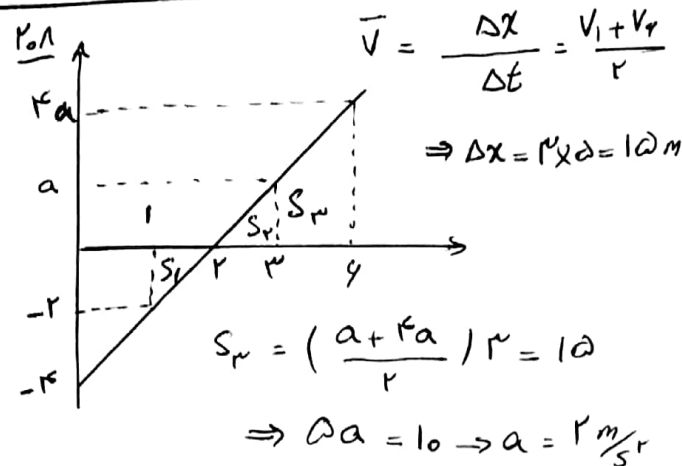


$$\frac{0,5}{r} = 0,125 \rightarrow 0,125$$

1.2.2



$$S_1 = \frac{1}{r} \times 1 \times -r = -1 \text{ m} = S_r$$

$$d = 14 \text{ m}$$

$$\sum F = ma$$

$$a \omega_0 - f_k = ma$$

$$a \omega_0 - \frac{1}{r} \times 10 \times 10 = 10a$$

$$a \omega_0 - \omega_0 = 10a \rightarrow a = 0,1 \text{ m/s}^2$$

$$v_r = 0,1 \times 10 = 1 \text{ m/s}$$

$$\begin{cases} \Delta x_{0-r} = \frac{1}{r} \times 0,1 \times 10^2 = 1 \text{ m} \\ \Delta x_r = \frac{1}{r} \times 0,1 \times 10^2 = 1 \text{ m} \end{cases} \rightarrow 0,1 + 0,1 = 0,2$$

$$r/r$$

$$F_N = F_w = r/r$$

$$f_k = m(g+a) = r(10+1) = 11$$

$$R = \sqrt{f_k^2 + F_w^2} = \sqrt{11^2 + 1^2} = 11,5$$

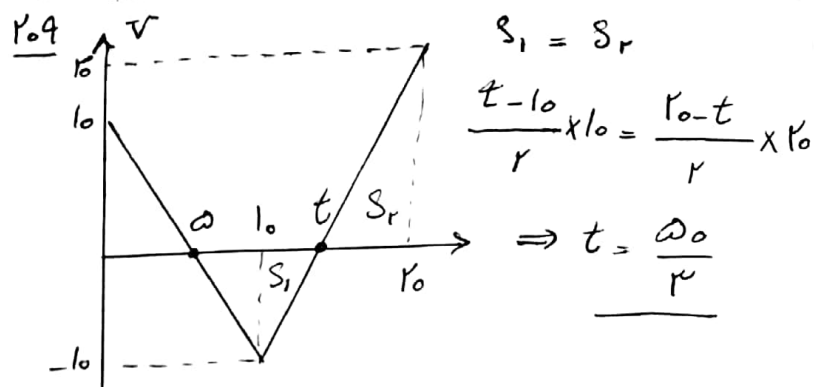
$$\Delta x_1 = \Delta x_2$$

حين يصعد طرفي

$$\frac{1}{r} a t^2 = \frac{1}{r} \times \frac{4}{14} a (t+r)^2$$

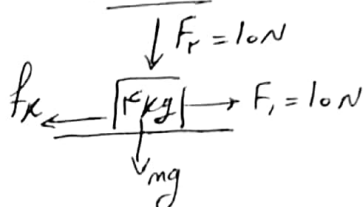
من قعر

$$\Rightarrow t = 4 \text{ s}$$



$$r/r$$

$$f_k = F_1 = 10 \text{ N}$$

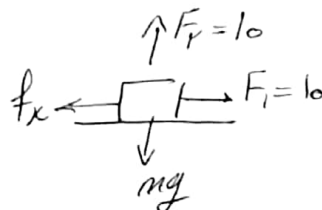


$$F_r + mg = F_N = 10 + 10 = 20$$

$$\tan \theta_1 = \frac{F_N}{f_k} = \frac{20}{10} = 2$$

$$r/r$$

$$\mu_k = \frac{10}{10+10} = \frac{1}{2}$$



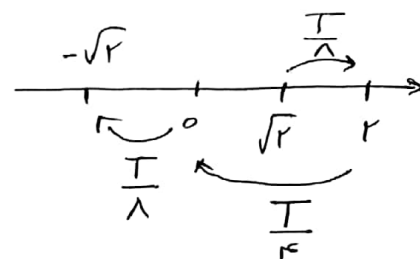
$$F_N = 10 - 10 = 0 \text{ N}$$

$$\tan \theta_2 = \frac{F_N}{f_k} = \frac{0}{10} = 0$$

$$\Rightarrow \theta_1 = \theta_2 < 45$$

$$r/r \quad A = r \text{ cm}$$

$$f = \frac{1}{r} \Rightarrow T = r \text{ s}$$



$$\Delta t = \frac{T}{\lambda} \times r + \frac{T}{r} = r \text{ s}$$

$$|\bar{v}| = \frac{\Delta x}{\Delta t} = \frac{r \sqrt{r}}{r} = \sqrt{r} \text{ m/s}$$

$$r/r \quad K = \frac{1}{r} m v^2 = E - U = 0,1 \text{ mJ} = 1 \times 10^{-4} \text{ J}$$

$$\Rightarrow \frac{1}{r} \times \frac{1}{10} v^2 = 1 \times 10^{-4} \Rightarrow v = 1 \text{ cm/s}$$

$$212 \quad \beta_r - \beta_i = 10 \log \frac{I_r}{I_i}$$

$$\beta_r - \beta_i = 10 \times 3 = 30 \text{ dB} \quad \text{افزایش}$$

$$213 \quad \frac{\sin \theta_r}{\sin \theta_i} = \frac{n_i}{n_r} = \frac{r}{r} \rightarrow \sin \theta_r = 0.4 \quad \theta_r = 23^\circ$$

$$\frac{\sin \theta_r}{\sin \theta_i} = \frac{r \times 10^{\frac{1}{2}}}{V_r} \Rightarrow V_r = r, r \times 10^{\frac{1}{2}}$$

$$\frac{\sin \theta_r}{\sin \theta_i} = \frac{n_i}{n_r} \Rightarrow \frac{0.4}{0.1 \sqrt{r}} = \frac{r}{r}$$

$$\theta_r = 25^\circ$$

$$\frac{r}{0.1 \sqrt{r}} = \frac{V_r}{r, r} \rightarrow V_r = r, 40$$

$$\frac{4}{AC} = C \cdot S \cdot V \Rightarrow AC = \frac{4}{0.1}$$

$$X_{AC} = Vt \Rightarrow t_{AC} = 20 \text{ s} \Rightarrow C \cdot S \cdot \theta_r = \frac{4}{X_{CB}}$$

$$\Rightarrow X_{CB} = \frac{4}{\frac{\sqrt{r}}{r}} = 4\sqrt{r}$$

$$t_{CB} = \frac{X_{CB}}{\sqrt{CB}} = 11 \Rightarrow t_p = 20 + 11 = 31$$

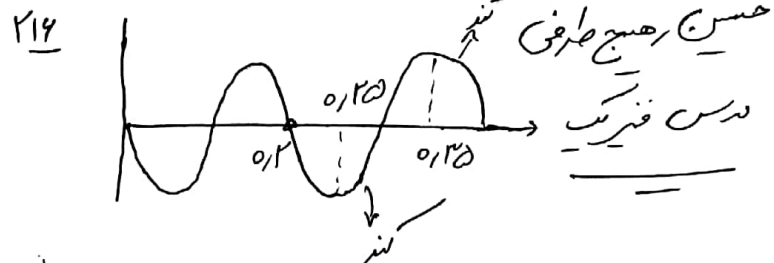
$$214 \quad V: C \cdot d, d \rightarrow r \cdot d, C \rightarrow \frac{C}{r}$$

$$C \rightarrow E = \frac{V}{d} \Rightarrow E \rightarrow \frac{E}{r} \checkmark$$

$$x \rightarrow V = C \cdot d \quad \text{الف C، الف}$$

$$x \rightarrow C \rightarrow \frac{C}{r}$$

$$C \rightarrow q = CV \xrightarrow{V: C \cdot d, C \rightarrow \frac{C}{r}} q \rightarrow \frac{q}{r}$$



$$\frac{\lambda}{r} = 20 \rightarrow \lambda = r \cdot 20 = 0.12 \text{ m}$$

$$\lambda = Vt \Rightarrow T = \frac{0.12}{r} = 0.12$$

نقطه

215

طبق متن: دیسی و نرینه

$$219 \quad \frac{1}{\lambda} = R \left(\frac{1}{9} - \frac{1}{n^2} \right) \rightarrow \frac{1}{1200} = \frac{1}{100} \left(\frac{1}{9} - \frac{1}{n^2} \right)$$

$$\Rightarrow \frac{1}{n^2} = \frac{1}{9} - \frac{1}{12} \Rightarrow n = 4$$

$$220 \quad E = n h \frac{c}{\lambda} \Rightarrow$$

$$4 \times 10^{-19} \times 1.9 \times 10^{-19} = 1.9 \times 10^{-19} \times \frac{r \times 10^{\frac{1}{2}}}{\lambda}$$

$$\Rightarrow \lambda = 12, 1 \rightarrow \text{التری}$$

$$221 \quad \frac{\Delta V}{d} = \frac{\Delta V_A}{d_A} \Rightarrow \frac{10}{1} = \frac{0 - V_A}{0.12}$$

$$\Rightarrow V_A = -12 \quad \text{نقطه}$$

$$222 \quad r: C \cdot d, |q_r| = 4|q_i| \Rightarrow |E_r| = 4|E_i|$$

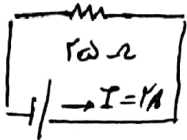
$$\Rightarrow \vec{E}_r = +4\vec{E}_i$$

$$223 \quad I = \frac{V}{R} = \frac{4}{4 \times 10^4} = 10^{-4} \text{ A}$$

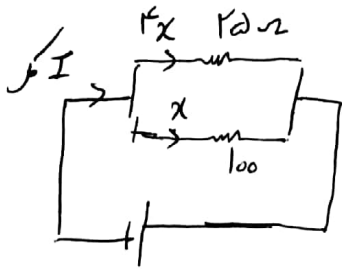
$$q = It = 10^{-4} \times 40 = 4 \times 10^{-3} \text{ C}$$

$$q = ne \Rightarrow n = \frac{10^{-4}}{1.6 \times 10^{-19}} \sim 10^{15}$$

۲۲۵



$$P_1 = R_1 I_1^2 = 20 \times 2^2 = 100 \text{ W}$$



$$I_x = 1.42 \rightarrow x = 0.14 \text{ A}$$

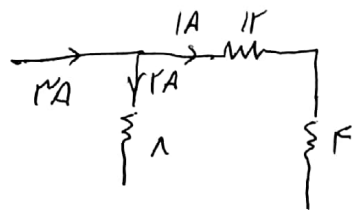
$$I = 2 \times 0.14 = 0.28 \text{ A}$$

$$P_r = R_r I_r^2 = 20 \times 0.28^2 = 1.568 \text{ W}$$

$$P - P_1 = 1.568 \text{ W}$$

۲۲۷

$$R = 12$$



$$V = IR$$

$$12 = 1 \times 12$$

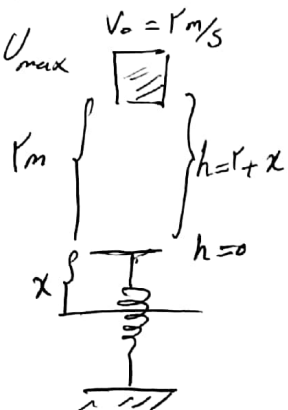
۴ نرینه

۲۲۵

$$mgh + \frac{1}{2}mv^2 = U_{\max}$$

$$20(2+x) + 4 = 44$$

$$\Rightarrow x = 0.1 \text{ m} = 10 \text{ cm}$$



۲۲۱

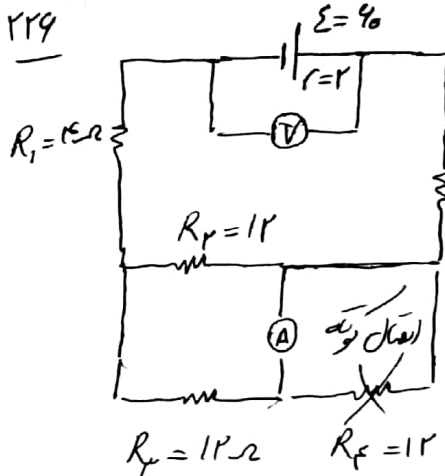
هر چه قتل اوله مویشا کمتر

۲ نرینه

خامی مویشا تیر

سلاح جیهو به صورت برآمده باید باشد

۲۲۶



$$I_{\text{طر}} = \frac{\mathcal{E}}{R_{\text{طر}} + r} = \frac{40}{9 + 4 + 1 + 2} = 3 \text{ A}$$

۳۴ بین مقاومت R_2 و R_3 بعد از مساوی قسم مساوی

$$I_{R_2} = 1.5 \text{ A} \rightarrow \text{عدد آمپری}$$

$$V = \mathcal{E} - rI = 40 - 2 \times 3 = 34 \rightarrow \text{عدد ولت}$$

۲۲۸

$$U = \frac{1}{2} \times L \times I^2 \rightarrow I = 4 \text{ A}$$

$$B = \frac{\mu_0 NI}{l} = \frac{12 \times 10^{-7} \times 100 \times 4}{0.10 \text{ m}} \times (10^4) = 4.8 \text{ T}$$

۲۲۹

$$\mathcal{E} = \frac{-N \Delta B \Delta}{\Delta t} = \frac{-500 \times 0.4 \times 10^{-4} \times 10^{-4}}{30 \times 10^{-3}} = 0.6 \text{ V}$$

۲۲۳

نیروی سنادی برابر وزن ساره جایجا است

در حالت اول و با قراردادن چوب درون ظرف

$$F_{\text{سندری}} = \text{وزن ظرف و چوب}$$

وزن ظرف و چوب تغییر نمیکند بنابراین $F_{\text{سندری}}$ ثابت میماند

۲۳۳ $A_0 = 10 \text{ cm}^2$

$$1200 \times 10 \times \frac{1}{6} + 101200 = 101200$$

$$\Delta P = \frac{r}{100} \times 101200 = 10120 \text{ Pa}$$

$$10120 = 1000 \times 10 \times h_r \Rightarrow h_r = \frac{1012}{1000}$$

$$V = A h_r = 10 \times \frac{1012}{1000} = 10.12 \text{ cm}^3$$

۲۳۴ حسین رجبی

دس نیک

$$\frac{Q}{t} = \frac{KA \Delta \theta}{L}$$

$$\frac{Q_r}{Q_i} = \frac{k_r}{k_i} \times \left(\frac{D_r}{D_i} \right)^2 \times \frac{L_i}{L_r}$$

$$= \frac{100}{1000} \times 1 \times \frac{1}{1} = 10$$

نزدک

۲۳۵ $10000 \times 10 = 100000 \text{ J} = 100000 \text{ J}$

$$\begin{array}{ccccccc} \text{نیک } 10 & \xrightarrow{\frac{10}{100} \times 10000 \times 10} & \text{نیک صفر} & \xrightarrow{\frac{1}{1} \times 100000} & \text{نیک صفر} & \xrightarrow{10000} & \text{نیک } 10 \end{array}$$

$$\frac{10}{100} \times 10000 \times 10 = 10000$$

$$\frac{1}{1} \times 100000 = 100000$$

$$100000 - (10000 + 100000) = 10000 = \frac{1}{1} \times 10000 \theta \rightarrow \theta = 10^\circ$$

موفق باشید

حسین رجبی - مدرس نیک

آیة ۵۷۱ سال ۹۵