



اشتراک الماس

شامل چه محصولاتیه؟

کلاس سالیانه دروس اختصاصی
(تدریس و حل تست پیشرفته) **۴ کلاس**



کلاس های تست طلایی
دروس اختصاصی **۴ کلاس**



کلاس آمادگی امتحان نهایی
دروس اختصاصی و عمومی **۱۰ کلاس**



آزمون های دوپینگ



آزمون سالیانه **۲۳ مرحله**



کارگاه های کمر بندمشکی



همایش های موضوعی و
جمع بندی



فقط یکبار هزینه تا روز کنکور به هیچ کلاس و آزمون ریگه ای نیاز نداری

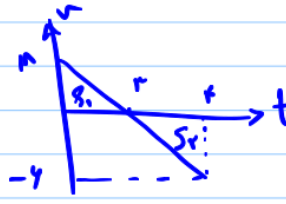
۱۸۱ → اوج مسدود برابر است با نصف عمق
مدون دایره

۱۸۲ → قاعده دست چپ را بر اثر تدریل 

۱۸۳ → $F = BIL \sin \theta \rightarrow \frac{K_0 m}{8L} = [B] A.m \rightarrow [B] = \frac{K_0}{A.s^2}$

۱۸۴ → $E_n = \frac{-ER}{n^2} \rightarrow E_3 = \frac{-ER}{3^2} = -\frac{ER}{9}$
 $n=3$ برای انرژی در

۱۸۵ → 

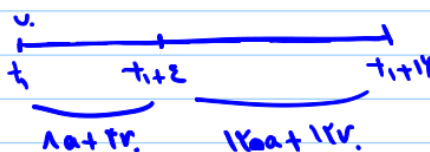
۱۸۶ →  $L = S_1 + S_2 = \frac{3 \times 8}{2} + \frac{6 \times 4}{2} = 30$
 $S_m = \frac{L}{\Delta t} = \frac{30}{4} = 7.5$

۱۸۷ → $\Delta x = \frac{1}{2} a t^2 + v_i t$

در لحظه اول $200 = 8a + 4v_i$
در لحظه دوم $200 = 120a + 12v_i$

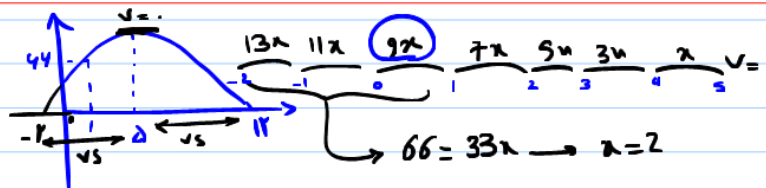
Sol: $24a = -60$

$|a| = \frac{25}{6}$

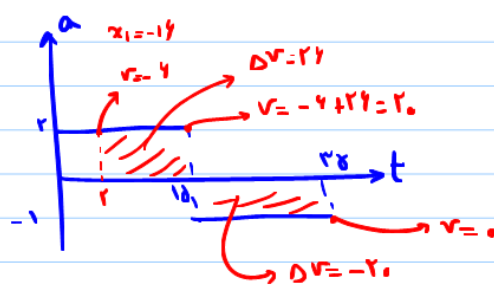




(188)



(189)



$$9x = 18 \rightarrow 66 - 18 = 48$$

$$\Delta x_1 = \frac{-4 + 4}{1} \times 14 = 0 \times 14 = 0$$

$$\Delta x_2 = \frac{4 + 0}{1} \times 18 = 4 \times 18 = 72$$

$$\Delta x_{\text{total}} = 72 \rightarrow x - (-14) = 72 \rightarrow x = 86$$

(190)

$$\frac{g'}{g} = \frac{1}{100} \rightarrow \frac{R_e^2}{(R_e + h)^2} = \frac{1}{100} \rightarrow h = 9R_e$$

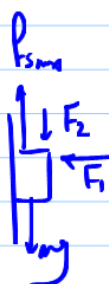
(191)



$$N = F - F$$

$$F - f_{\text{max}} = \frac{1}{2}(30 - F) \rightarrow F = 10$$

(192)



$$f_{\text{max}} = F_2 + mg = 2.9 + 3.5 = 6.4$$

$$R = \sqrt{F_N^2 + f_{\text{max}}^2} \Rightarrow F_N = 8 \rightarrow F_1 = 8N$$

$$\rightarrow f_{\text{max}} = \mu_s F_N \rightarrow 6.4 = \mu_s \times 8 \rightarrow \mu_s = 0.8$$



۱۹۳] $\frac{5\lambda}{4} = 25 \rightarrow \lambda = 20 \rightarrow \Delta x = 10 \times 1 = 10$ این $\times$
 $T = \frac{\lambda}{v} = \frac{20}{10} = 2$ $\Delta t = 0.1 \rightarrow \frac{\Delta t}{T} = \frac{0.1}{2} \rightarrow \Delta t = \frac{T}{2} \rightarrow 2A = L = 40$ ✓
 $\lambda = 20$

$\Delta t = 0.2 = T$

✓ (۳)

✓ (۲)

۱۹۴] $\alpha = 30^\circ \rightarrow \theta_i = 30^\circ \rightarrow \sin \theta \propto v$
 $\beta = 30^\circ \rightarrow \theta_r = 30^\circ$

$\frac{v_1}{v_2} = \frac{\sin \theta_i}{\sin \theta_r} = \frac{\sin 30^\circ}{\sin 30^\circ} = 1/0$

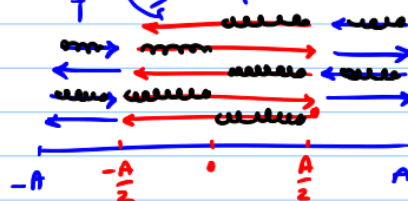
۱۹۵] $\omega = 4\pi = \frac{2\pi}{T} = \pi \rightarrow T = \frac{1}{2} \text{ s}$

$\theta = \omega t = 4\pi \times \frac{1}{12} = \frac{\pi}{3}$

$\frac{\Delta t}{T} = \left(\frac{1}{12} - \frac{1}{12} \right) = \frac{1}{12} = \frac{1}{4} \rightarrow \Delta t = \frac{T}{4}$

$\theta_r = \omega t = 4\pi \times \frac{1}{4} = \pi$

$\frac{\Delta t}{T} = \left(\frac{1}{4} - \frac{1}{12} \right) = \frac{2}{12} = \frac{1}{6} \rightarrow \Delta t = \frac{1}{6} T = \frac{2T}{12} = \frac{2T}{3}$



۵۴. $\frac{5T}{12} + \frac{4T}{6} = \frac{13T}{12} = \frac{13}{24} \text{ s}$



$$196) \lambda = \frac{c}{f} = \frac{3 \times 10^8}{4.2 \times 10^{14}} = \frac{7.1}{10} \text{ nm}$$

$$\frac{3}{4} = \frac{1}{1.5} \left(\frac{1}{n'} - \frac{1}{n} \right) \rightarrow n' = 1$$

$$197) \text{ درون پرست } \rightarrow n = 4 \rightarrow \frac{1}{\lambda} = R \left(\frac{1}{1^2} - \frac{1}{4^2} \right) = R \times \frac{15}{16} \rightarrow \lambda = \frac{16}{15} R$$

$$\text{بیرون پرست } \rightarrow n = 4 \rightarrow \frac{1}{\lambda} = R \left(\frac{1}{4^2} - \frac{1}{\infty} \right) = R \times \frac{1}{16} \rightarrow \lambda = 16 R$$

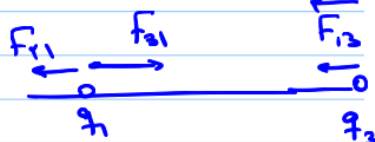
$$R, 16, 15 \rightarrow \lambda = \frac{32}{5} R$$

$$198) \text{ حل: } \frac{v_o}{\lambda} = \frac{v_p - v_A}{\lambda} \rightarrow v_p - v_A = v_o \rightarrow v_p' - v_p = -v_o$$

$$\text{و: } \frac{v_o}{\lambda} = \frac{v_p' - v_A}{\lambda} \rightarrow v_p' - v_A = v_o$$

$$199) \Delta r = E \rightarrow E_3 > E_2 > E_1 \rightarrow \Delta r_3 > \Delta r_2 > \Delta r_1$$

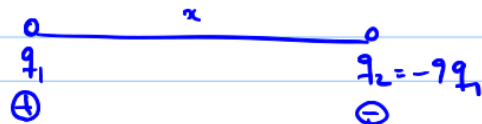
$$200) \frac{F_1}{F_3} = \frac{\left| \frac{k q_1 q_2}{9 \times 10^{-9}} - \frac{k q_1 q_3}{2 \times 10^{-9}} \right|}{\left| \frac{k q_1 q_2}{9 \times 10^{-9}} + \frac{k q_1 q_3}{2 \times 10^{-9}} \right|} = \frac{\frac{4}{9} - 2}{\frac{4}{9} + 2}$$



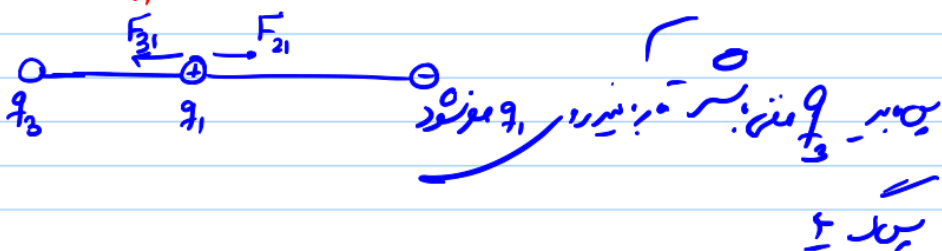
$$= \frac{3}{11}$$



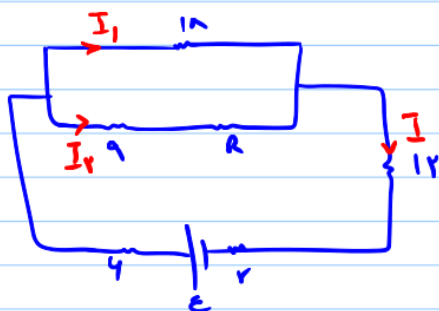
۲۰۱



مطابق طرح ذرات q_1 و q_2 در فاصله $a = \frac{x}{\sqrt{\frac{q_1}{q_2}} - 1} = \frac{x}{2}$



۲۰۲



$$V_{12} = V_{18}$$

$$I \times 12 = I_1 \times 18$$

$$I_1 = \frac{12I}{18} = \frac{2}{3}I$$

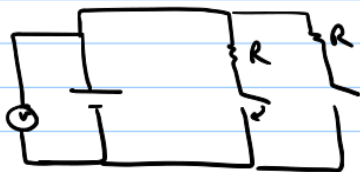
$$I_2 = \frac{1}{3}I$$

$$V_{18} = V_{9+R} \rightarrow I_1 \times 18 = I_2 \times (9+R)$$

$$\frac{2}{3}I \times 18 = \frac{1}{3}I \times (9+R) \rightarrow R = 27$$



23



$$V = 6 = IR = \frac{10}{R+r} \times R \rightarrow r = \frac{2}{3} R$$

$$\text{در } r = \frac{10}{\frac{R}{2} + r} \times \frac{R}{2} = \frac{10R}{\frac{R}{2} + \frac{2R}{3}} = \frac{30}{7}$$

24

$$\mathcal{E} = 2 \times 0,8 + 15 \times 0,8 + 12 = 29$$

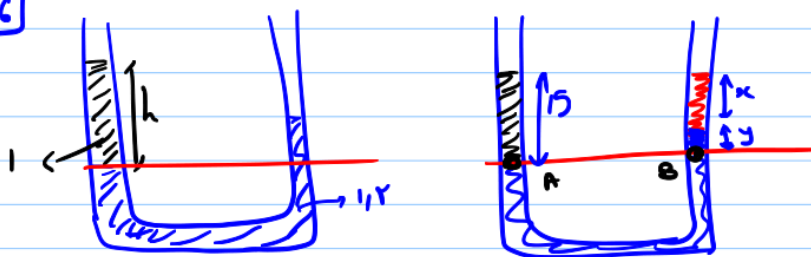
25

$$r = \mathcal{E} - Ir = 12 - 2(1,8) = 9$$

$$9 = Ir \rightarrow I = 1 \rightarrow I_R = 0,8 \rightarrow P = VI$$

$$P = 9 \times \frac{1}{2} = 4,5$$

26

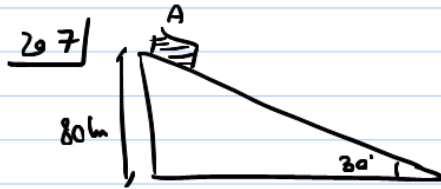


$$x + y = 15 \text{ cm} \rightarrow P_A = P_B \rightarrow 1 \times 15 = 2 \times 0,8 + (15 - x) \times 1,3$$

$$\rightarrow x = 9 \text{ cm}$$

$$P = \rho gh = 1 \times 9 = 9$$





$$W_{mg} = +mgh = +2 \times 10 \times 0.8 = +16 \text{ J}$$

$$E_1 = U_1 - mgh = 16 \text{ J}$$

$$E_2 = K_2 = \frac{1}{2}mv^2 = \frac{1}{2} \times 2 \times 9 = 9 \text{ J}$$

$$\Delta E = E_2 - E_1 = 9 - 16 = -7 \text{ J}$$

$$W_f = \Delta K \rightarrow W_{mg} + W_f = \Delta K$$

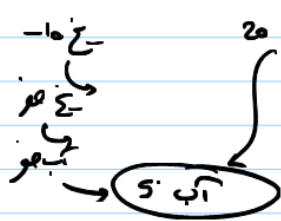
$$-mgh(1) - \frac{1}{n}K_0 = K - K_0 \rightarrow K = \frac{n}{n-1}K_0 - mgh = \frac{1}{1-1/4} \times 16 - 16 = 16 \text{ J}$$

$$\frac{1}{2}mv^2 = 16 \rightarrow v = 4 \text{ m/s}$$

$$\Delta L_{L_1} - \Delta L_{L_2} = 0.3 \text{ mm} \rightarrow L_1 \Delta \theta (\alpha_{L_1} - \alpha_{L_2}) = 0.3 \text{ mm}$$

$$0.1 \times 10^{-3} \times \Delta \theta \times 1.732 = 0.3 \times 10^{-3} \rightarrow \Delta \theta = 1.732^\circ$$

210



$$|Q_f| = |Q_w|$$

$$m_c \Delta \theta + m_f \Delta \theta + m_w \Delta \theta = m_c \Delta \theta$$

$$1 \times 10 \times 10 + 1 \times 10 \times 10 + 1 \times 10 \times 10 = m \times 10 \times 10$$

$$10 + 10 + 10 = 10m \rightarrow m = 3 \text{ kg}$$

با زدن بهترین ها
حالت

