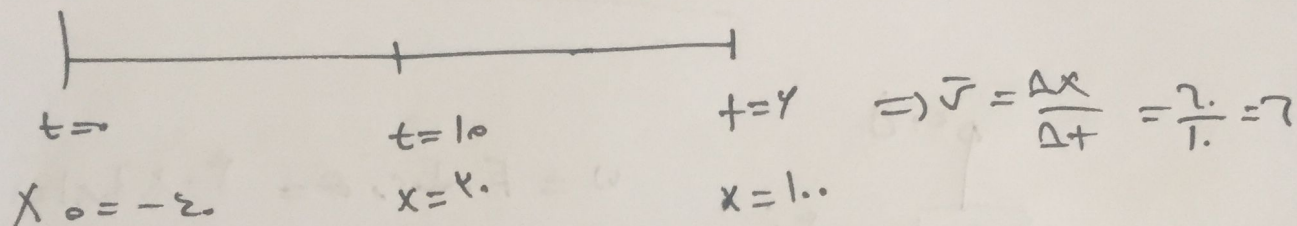


$$F_x = \bar{v} \cdot t \Rightarrow \Delta x = 1.0 \times 2.0 = 2.0$$

Dr. Sheykhan

$$s = 2.0 = \frac{1}{2} a t^2 \times (v_{max}) \Rightarrow v_{max} = 2.0$$

V.3

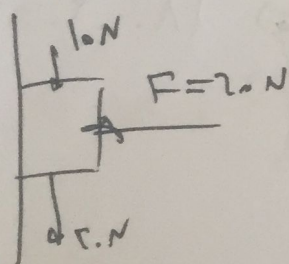


$$v = \frac{\Delta x}{\Delta t} = \frac{2.0}{1.0} = 2$$

V.4

$$\Delta x = \frac{1}{2} a t^2 + v_0 t \Rightarrow 12.0 = \frac{1}{2} a \times 2.0^2 + 1.0 v_0 \Rightarrow v_0 = 1.0$$

$$v^2 - v_0^2 = 2a\Delta x \Rightarrow 1.0^2 = 2 \times a \times \Delta x \Rightarrow \Delta x = 0.25$$



$$\mu_s = 0.2, \mu_k = 0.1$$

Dr. Sheykhan V.5

$$f_{s, max} = \mu_s \cdot N = 0.2 \times 2.0 = 0.4$$

$$0.4 < 0.4 \Rightarrow f_s = 0.4$$

$$R = \sqrt{N^2 + f_s^2} = \sqrt{2.0^2 + 0.4^2} = 2.04$$

$$\frac{F_r}{F_l} = \left(\frac{R_e}{R_e + h} \right)^2 \Rightarrow \frac{F_c}{1.0 \times 9.8} = \left(\frac{7.0}{7.0 + 2.0} \right)^2 = \frac{1}{2}$$

V.6

$$\Rightarrow F_c = 1.0 \times 9.8 = 9.8 \text{ N}$$

$$F_x = k \Delta x = 2.0 \times 0.5 = 1.0 \text{ N}$$

Dr. Sheykhan V.7

$$f_c = \mu_k N = 1.0 \Rightarrow \mu_k = 0.1$$

۲۱۸ زیاده فوٹو الیکٹریک و ملیف خطی Dr. Sheykh

$$\frac{1}{\lambda} = R_H \left(\frac{1}{n_1^2} - \frac{1}{n_2^2} \right) = R_H \left(\frac{1}{1} - \frac{1}{4} \right) \Rightarrow \frac{1}{\lambda} = \frac{1}{1.09} \Rightarrow \lambda = 1.09 \text{ nm}$$

$$F = F' = F''$$

۲۱۹ زیاده Dr. Sheykh

$$E = \frac{F}{q} = \frac{1.71i - 1.24j}{2 \times 10^{-2}} = (8.55i - 6.2j) \times 10^2$$

$$\Rightarrow |E| = \sqrt{8.55^2 + 6.2^2} \times 10^2 = 1.04 \times 10^3$$

۲۲۰ Dr. Sheykh

$$F_{\text{net}} = 2F_{\text{ind}} \Rightarrow \frac{k q_c q_c}{L^2} = \frac{2 k q_1 q_c}{\epsilon L^2}$$

$$\Rightarrow |q_c| = 2\mu_c \rightarrow q_c = -2\mu_c$$

$$V_2 - V_1 = A \cdot x_1^{-2}$$

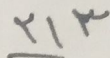
$$\begin{cases} V_1 = \frac{1}{\epsilon} \frac{q_1}{x_1^{-2}} \\ V_2 = \frac{1}{\epsilon} \frac{q_2}{x_2^{-2}} \end{cases} \Rightarrow A \cdot x_1^{-2} = \frac{1}{\epsilon} (q_2 - q_1)$$

$$\Rightarrow \begin{cases} q_1 = \epsilon x_1^{-2} A \\ q_2 = 1.25 q_1 \end{cases}$$

$$\Rightarrow V_1 = \frac{q_1}{\epsilon} = \frac{\epsilon x_1^{-2} A}{\epsilon x_1^{-2}} = 1 \text{ V}$$

Dr. Shetty

$$\Rightarrow \underline{P = 1,18 \text{ kN}}$$



$$w = F \cdot \perp c, \varphi = \psi \cdot \chi \mid \chi \mid = 1 \wedge.$$



Dr. Shykh

$$\Rightarrow 18. - 2. = \underline{16.}$$

Y 18

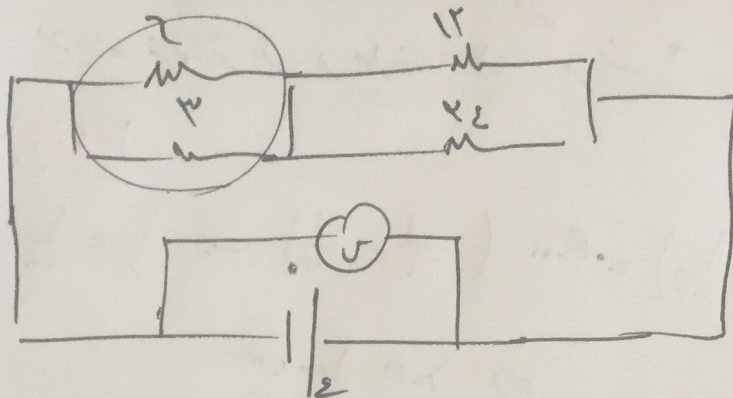
Dr. Shegkh

۴۰ بیت است لذا ۷۰ بیت ضايع بود.

$$\Delta x = v \cdot t \Rightarrow \delta l = v \cdot \delta t \Rightarrow v = \frac{\delta l}{\delta t}$$

$$d = v \cdot t = \frac{81.}{1.8} \times 2.6 = 119.$$

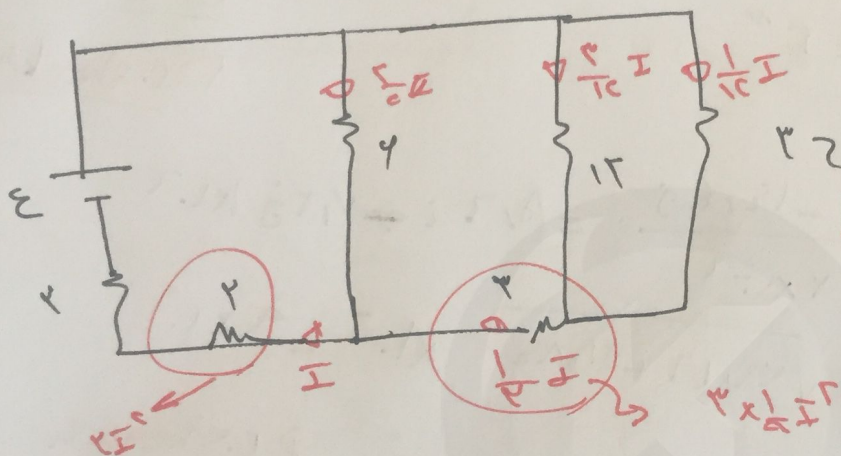
P. r. sheykh



۲۲۴
کاهش $I_T \rightarrow$ افزایش R_T می‌شود

$$\uparrow V = \varepsilon - I r \downarrow$$

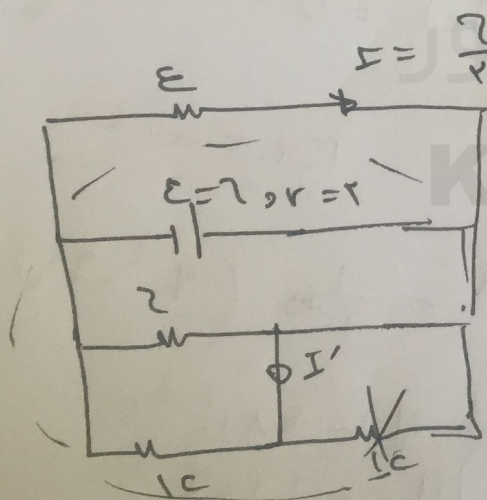
Dr. sheykh



۲۲۵
شیرین‌تر ۲Ω →

$$P = 4 \times \frac{\varepsilon^2}{2 \times 2}$$

$$V_{\text{در } U} \Rightarrow 1A = \varepsilon - I r \Rightarrow 1A = \varepsilon - 2 \times 1 \Rightarrow \varepsilon = 2V$$



$$I = \frac{2}{2+r} = 1.5A$$

Dr. sheykh

$$I' = \frac{2}{1A} \times \frac{2}{2} = 0.5A$$

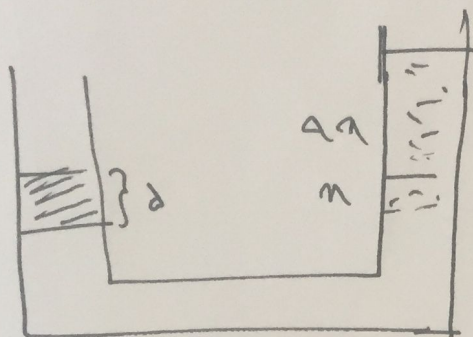
۲۲۷
زیر ۲Ω است.

$$B = \frac{\mu \cdot N I}{L} = 1 \times 10^{-7} \times \frac{2 \times 0.5}{0.1} = 1 \times 10^{-7}$$

۲۲۸

Dr. sheykh

$$\varepsilon = -N \frac{\Delta \varphi}{\Delta t} = -N \frac{A \Delta B \cos \theta}{\Delta t} = 100 \times 8 \times 10^{-2} \times \frac{1 \times 10^{-6}}{1 \times 10^{-6}} \times 1 = \underline{\underline{800}} \quad \text{229}$$



$$P_{\text{int}} h_{\text{int}} = P_{\text{ext}} h_{\text{ext}} \quad \text{230}$$

$$\Rightarrow 0.8 \times 8 = 1 \times h \rightarrow h = \underline{\underline{6.4}} \quad \text{231}$$

$$\Rightarrow 0.8 \times 8 = 1 \times h \rightarrow h = \underline{\underline{6.4}} \quad \text{232}$$

$$A_1 v_1 = A_2 v_2 \Rightarrow \frac{v_1}{v_2} = \frac{A_2}{A_1} = \left(\frac{d_2}{d_1} \right)^2 = \frac{1}{4} \quad \text{233}$$

$$\frac{v_1}{v_2} m_1 = m_2 \Rightarrow \underline{\underline{m_2 = 4m_1}} \quad \text{234}$$

$$Q = mc \Delta \theta \Rightarrow 1 = 4 \times 1 \times 2 \times \frac{\Delta \theta_A}{\Delta \theta_B} \Rightarrow \underline{\underline{\frac{\Delta \theta_A}{\Delta \theta_B} = \frac{1}{8}}} \quad \text{235}$$

$$\underline{\underline{\frac{\Delta \theta_A}{\Delta \theta_B} = \frac{1}{8}}} \quad \text{236}$$

$$C_{\text{int}} = C_{\text{ext}} \quad \text{237}$$

$$A_c = A_1 (1 + \alpha \Delta \theta) \quad \text{238}$$

$$\Rightarrow A_c = 8 \cdot (1 + 10^{-5} \times 100) = 8.008 \quad \text{239}$$

Dr. Sheykhi