

2011 - 2010 :			
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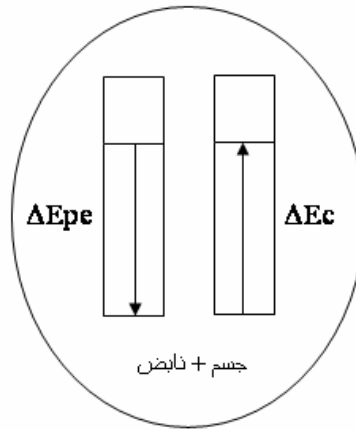


( 4 ) :

- 1

0.50.....:

/



0.25 ..... ΔEc + ΔEpe = 0 :

/

0.25 ..... Epe<sub>A</sub> = Ec<sub>B</sub> :

$$\frac{1}{2}Kx^2 = \frac{1}{2}mv^2 :$$

/ ⇨

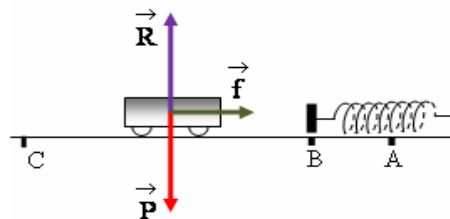
0.25 .....  $v = x\sqrt{\frac{K}{m}}$  :

0.25 ..... v = 2 m/s :

- 2

0.75..... :

/



0.25 .....  $\Delta E_c = W(\vec{f}) :$  /

0.5 .....  $W(\vec{f}) = -E_{cB} = -\frac{1}{2}mv_B^2 :$  /  $\Rightarrow$

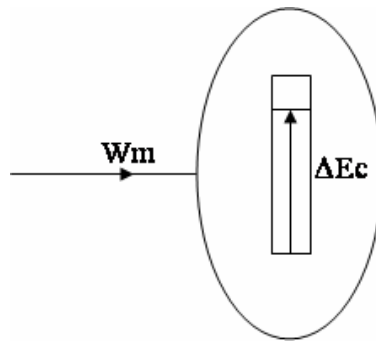
0.25 .....  $W(\vec{f}) = -0,02 \text{ Joules} :$

0.5 .....  $f = -\frac{W(\vec{f})}{BC} :$  /

0.25 .....  $f = 0,8 \text{ N} :$

( 4 ) :

0.5 ..... - 1



$\Delta E_c = E_c(t_2) - E_c(t_1) = W_m :$  - 2

1 .....  $E_c(t_2) = W_m :$

: - 3

0.5 + 0.5 .....  $J_\Delta = \frac{1}{2}MR^2 = \frac{1}{2} \times 0,2 \times (0,05)^2 = 25 \cdot 10^{-5} \text{ kg.m}^2$

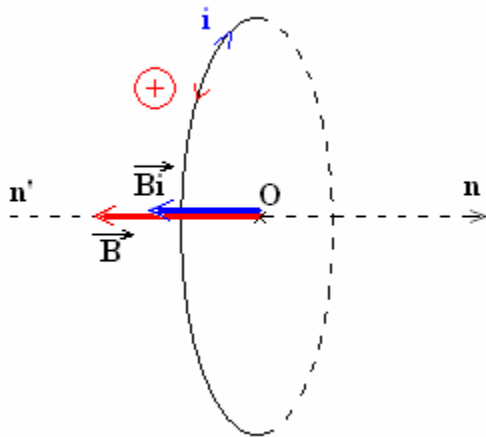
0.5 .....  $E_c(t_2) = W_m :$  - 4

$\frac{1}{2}J_\Delta \omega^2 = M(\vec{F}_1, \vec{F}_2) \cdot \alpha :$

0.5 .....  $M(\vec{F}_1, \vec{F}_2) = \frac{J_\Delta \omega^2}{2\alpha} :$

0.5 .....  $M(\vec{F}_1, \vec{F}_2) = \frac{25 \cdot 10^{-5} \times \left(\frac{1000 \times 2\pi}{60}\right)^2}{2 \times (600 \times 2\pi)} = 3,7 \cdot 10^{-4} \text{ N.m} :$

( 4 ) :



0.5 ..... - 1

0.5.....  $\Phi_1 = nSB \cos 180$  :  $\Phi_1$  - 2

0.5 .....  $\Phi_1 = -5 \text{ Weber}$  :  
:  $\Phi_2$  / - 3

0.5.....  $\Phi_2 = -1,5 \text{ Weber}$  :  
: /

0.5.....  $\Delta\Phi = \Phi_2 - \Phi_1 = 3,5 \text{ Weber}$   
: /  $\Rightarrow$

0.5 .....  $e = -\frac{\Delta\Phi}{\Delta t}$

0.5.....  $e = -5 \text{ V}$  :

0.5 ..... - 4

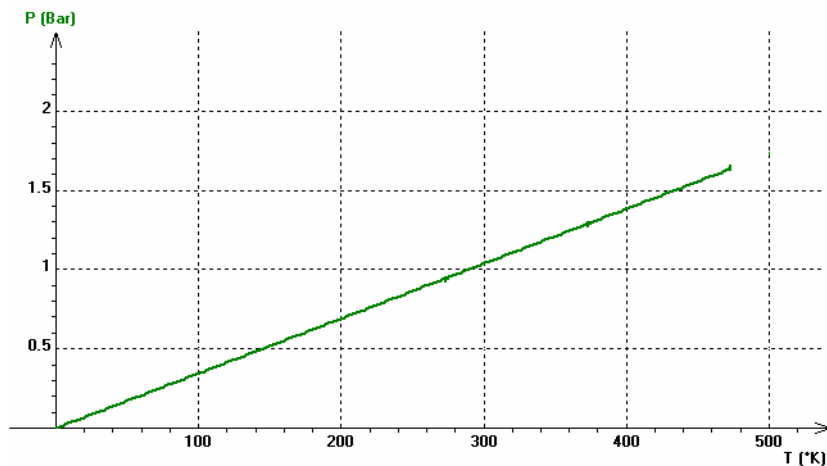
( 4 ) :

0.25 x 4 ..... : - 1

1 ..... : - 2

$\theta$ (°C)	0	100	200	300	400
P (bar)	0,94	1,29	1,64	1,98	2,33
T (°K)	<b>273</b>	<b>373</b>	<b>473</b>	<b>573</b>	<b>673</b>

1 ..... : - 3



0.25 .....  $P = K T$  : - 4

0.25 .....  $T = 600 + 273 = 873$  : - 5

0.25 .....  $K = \frac{\Delta P}{\Delta T} = 2,8 \cdot 10^{-3}$  :

0.25 .....  $P = 2,8 \cdot 10^{-3} \times 873 = 2,6 \text{ Bar}$  :

( 4 ) :

0.5 .....  $[\text{H}_3\text{O}^+] = [\text{Cl}^-]$  - 1

0.5 .....  $\sigma = [\text{H}_3\text{O}^+] \cdot (\lambda_{\text{H}_3\text{O}^+} + \lambda_{\text{Cl}^-})$  : - 2

1 .....  $[\text{H}_3\text{O}^+] = [\text{Cl}^-] = 1,5 \text{ mmol/L} = 1,5 \cdot 10^{-3} \text{ mol/L}$  - 3

1 .....  $C = [\text{H}_3\text{O}^+] = [\text{Cl}^-] = 1,5 \text{ mmol/L} = 1,5 \cdot 10^{-3} \text{ mol/L}$  - 4

0.25 .....  $C = \frac{n}{V}$  : - 5

$$n = CV :$$

0.25 .....  $n = 7,5 \cdot 10^{-3} \text{ mol}$  :

0.25 .....  $n = \frac{V_{\text{HCl}}}{V_M}$  :

$$\cdot V_{\text{HCl}} = n \cdot V_M :$$

0.25 .....  $V_{\text{HCl}} = 0,18 \text{ L}$  :