

التمرين الأول (6 ن)

$$2 \quad n = \frac{PV}{RT} = \frac{10^5 \times 250 \times 10^6}{8,3 \times 298} = 0,01 \text{ mol} \quad - 1$$

$$2 \quad \text{C}_3\text{H}_8 \text{ هو الغاز هو } M = \frac{m}{n} = \frac{0,44}{0,01} = 44 \text{ g.mol}^{-1} \quad - 2$$

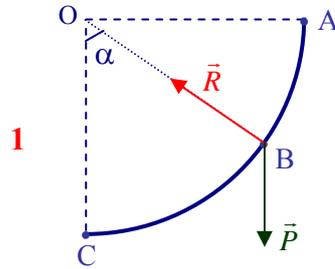
$$2 \quad m' = M \times \frac{P_2V}{RT} = 44 \times \frac{0,8 \times 10^5 \times 250 \times 10^6}{8,3 \times 298} = 0,355 \text{ g} \quad - 3$$

الكتلة الباقية :

التمرين الثاني (14 ن)

$$1 \quad E_{ppA} = MgR = 0,1 \times 10 \times 0,5 = 0,5 \text{ J} \quad - 1$$

2 - تمثيل القوى :



$$1 \quad h = R(1 - \cos \alpha) \quad (\text{أ} - 3)$$

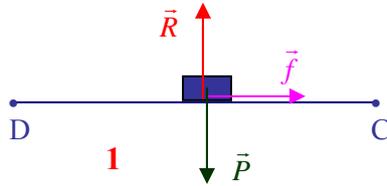
$$1 \quad E_{ppB} = MgR(1 - \cos \alpha) \quad (\text{ب})$$

$$1 \quad E_{ppA} = 0,1 \times 10 \times 0,5(1 - 0,5) = 0,25 \text{ J} \quad (\text{ج})$$

$$1 \quad E_{ppB} - E_{ppA} = 0,25 - 0,5 = -0,25 \text{ J} \quad (\text{د})$$

$$1 \quad W(\vec{P}) = -\Delta E_{pp} = -(-0,25) = 0,25 \text{ J} \quad \text{عمل الثقل} :$$

4 - (أ) تمثيل القوى



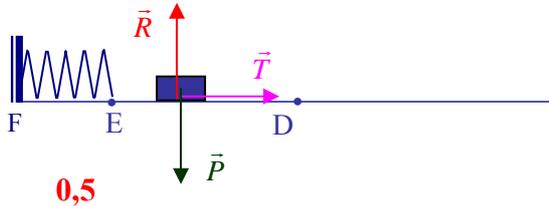
$$E_{cC} + W(\vec{P}) + W(\vec{R}) + W(\vec{f}) = E_{cD} \quad (\text{ب})$$

$$2 \quad 0,5 - f \times CD = \frac{1}{2} \times 0,1 \times (2)^2$$

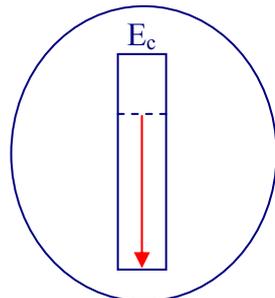
$$f = 0,3 \text{ N}$$

$$E_{cD} + W(\vec{P}) + W(\vec{R}) + W(\vec{T}) = E_{cE} \quad - 5$$

$$1,5 \quad k = 40 \text{ N/m} \quad , \quad 0,2 - \frac{1}{2} kx^2 = 0$$

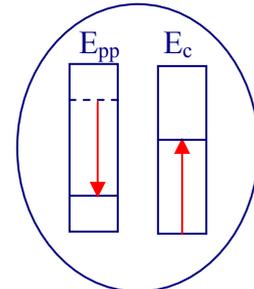


0,5



1

بين D و E الجملة (عربة)



1

بين A و B الجملة (عربة + أرض)

- 6