

Ex 1

①

* Blo Bla

* Au pt A $E_m = \dots\dots\dots$ ①

* Au pt B $E_m = \dots\dots\dots$ ②

* Conservation NRJ Méca + justifier ③

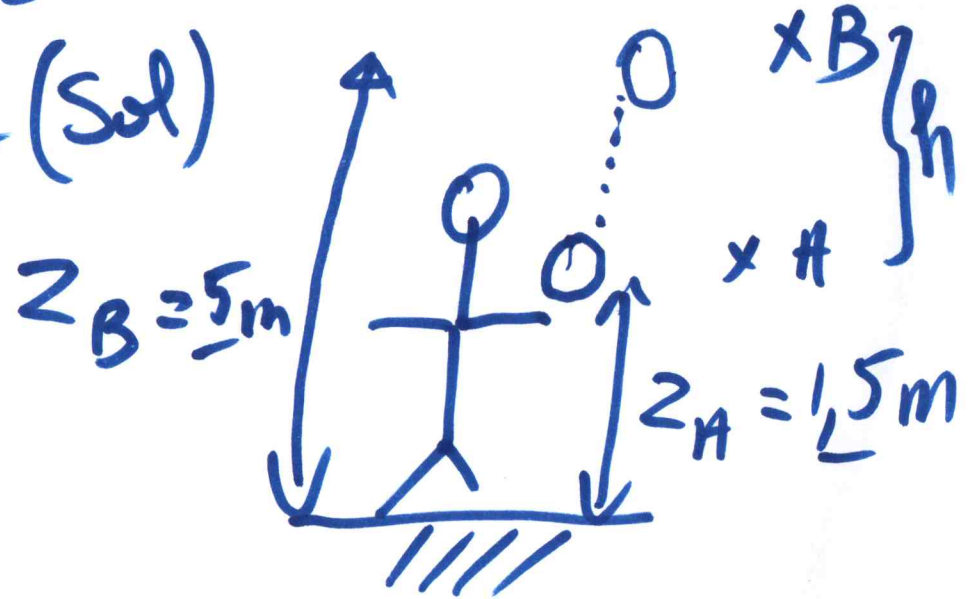
* $E_{m_A} = E_{m_B} + \text{maths}$

* Relat: Formule Simple + calcul ④

Conservation
NRJ
méca

②

1) Bla Bla méca = Systeme d'étude = balle
+ Référentiel = Terrestre (Sol)



E_{m_A}
.....

$$E_{m_A} = E_{c_A} + E_{pp_A}$$

$$= \frac{1}{2} m v_A^2 + m g z_A$$

$$g = 9,81 \text{ m/s}^2$$

2) $E_n B$

$$E_{mB} = E_{ppB} = mgy_B \quad \textcircled{A} \quad \textcircled{3}$$

$$E_{mB} = E_{cB} = \frac{1}{2} m v_B^2 \quad \textcircled{B}$$

$$E_{mB} = E_{cB} + E_{ppB} = \frac{1}{2} m v_B^2 + mgy_B \quad \textcircled{C}$$

$E_n B$

$$v_B = 0 \Rightarrow$$

$$E_{mB} = mgy_B$$

2a) Comme les frottements n'existent plus (négligés, st nuls ...) $\Rightarrow$ (donc)

④

$E_{m_A} = E_{m_B} = \text{conste}$

①

②

$$\frac{1}{2} m v_A^2 + m g z_A = m g z_B$$

$$\cancel{m} \left(\frac{1}{2} v_A^2 + g z_A \right) = \cancel{m} g z_B$$

$$\frac{1}{2} v_A^2 + g z_A = g z_B$$

$$\frac{1}{2} v_A^2 = g z_B - g z_A$$

maths

①

$$v_A^2 = g (z_B - z_A)$$

$$v_A^2 = 2 g (z_B - z_A)$$

$$v_A = \sqrt{2 g (z_B - z_A)}$$

$$v_A = \sqrt{2 g h}$$

avec

$$h = z_B - z_A$$

5

2b)

$$v_A = \sqrt{2gh}$$

$$= \sqrt{2 \times 9,81 \times (5 - 1,5)}$$

$$h = z_B - z_A \\ = 5 - 1,5$$

$$v_A = 8,3 \text{ m/s}$$

Questions?

oui (A)
non (B)