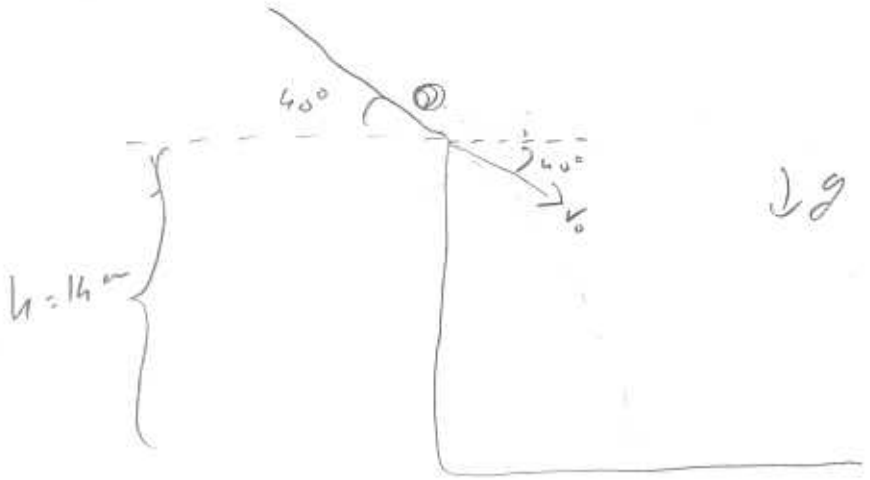


2g

$V_0 = 8 \frac{m}{sec}$

$\vec{a} = (0, -g)$

$\vec{v}(t) = (V_{0,x}, -gt + V_{0,y})$

$= (V_0 \cos\theta, -gt - V_0 \sin\theta)$

$\vec{r}(t) = (V_0 \cos\theta \cdot t, -\frac{1}{2}gt^2 - V_0 \sin\theta\, t + h)$

$y(t_1) = 0$ $\quad -\frac{1}{2}gt_1^2 - V_0 \sin\theta\, t_1 + h = 0$

$x(t_1) = ?$

$$t_1 = \frac{V_0 \sin\theta \pm \sqrt{V_0^2 \sin^2\theta + 2gh}}{-g}$$

$$= \begin{cases} -2.3 \text{ sec} \\ 1.2 \text{ sec} \end{cases}$$

$x(t_1) = V_0 \cos\theta\, t_1 = \underline{7.35\,[m]}$

$x(t_2) = 6\,[m] \Rightarrow t_2 = \frac{x(t_2)}{V_0 \cos\theta} = 0.99 \text{ sec}$

$y(t_2) = ?$

$y(t_2) = 4.25\,m > 2\,[m]$

$\underline{15}$ $\quad 15$