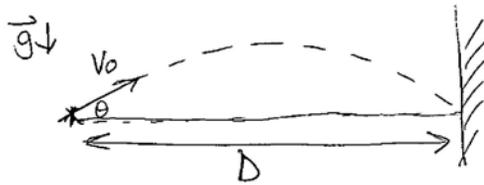


:::: SOLUCIÓN EJERCICIO 7 :::: FÍSICA I :::: 15 Enero 2008
:::: Profesor: Andrés Meza



$$x(t) = (v_0 \cos \theta) t$$
$$y(t) = (v_0 \sin \theta) t - \frac{1}{2} g t^2$$

a) $D = v_0 \cos \theta t \Rightarrow \boxed{t = \frac{D}{v_0 \cos \theta}}$

b) $y = \frac{v_0 \sin \theta \cdot D}{v_0 \cos \theta} - \frac{1}{2} g \frac{D^2}{v_0^2 \cos^2 \theta} \Rightarrow \boxed{y = D \tan \theta - \frac{g D^2}{2 v_0^2 \cos^2 \theta}}$

c) Altura máxima: $h_{\max} \rightarrow v_y = 0$
 $\Rightarrow v_0 \sin \theta - g t_{\max} = 0 \quad | p$
 $\Rightarrow t_{\max} = \frac{v_0 \sin \theta}{g}$

$\boxed{\text{Si } \frac{D}{v_0 \cos \theta} > \frac{v_0 \sin \theta}{g} \text{ VA CAYENDO}}$