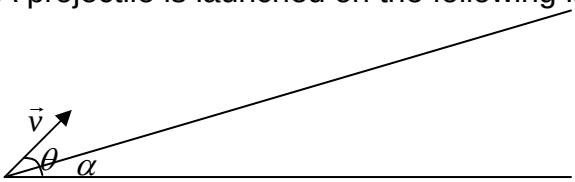
Super Projectile Motion Questions.

1. A projectile is launched on the following inclined surface



   a) Find an expression for the flight time in terms of θ, g, α, v, and t
   b) Find the range (along the surface) and flight time if the initial velocity is $40.00\,m/s[R30.00^0U]$ and $\alpha = 15.00^0$

2. Adrian has discovered the joy of paint ball guns. Adrian's archenemy, Artur, lives on the 3rd floor of an apartment building. If Adrian wishes to "paint" Artur's windows, what is the maximum distance he can be from the window (assuming the gun can be fired at $30.00\,m/s$ and one floor = 4m and the launch angle is $45.00°$)