Use pythagorean theorem to combine vertical and horizontal components for distance and velocity

$d = v_i t + 0.5at^2$

$\Delta v = \sqrt{(1+t_2^2)} - \sqrt{(1+t_1^2)}$

$\Delta s = \sqrt{(t_2^2+(0.5*t_2^2)^2)} - \sqrt{(t1^2+(0.5*t_1^2)^2)}$