$t =$	1.5	s

$a_x =$	0	ft/s^2		
$v_{0x} =$	30	ft/s		
$x_0 =$	0	ft		
$g =$	32.15	ft/s^2		
$a_y =$	-32.15	ft/s^2	$=$	$-g$
$v_{0y} =$	0	ft/s		
$y_0 =$	100	ft		

$t_{flight} =$	2.494161	s		$= \sqrt{\dfrac{2y_0}{g}}$
$v_{y\_impact} =$	-80.1873	ft/s		$= -\sqrt{2gy_0}$
$R =$	74.82483	ft		$= v_{0x} t_{flight}$
$v_x =$	30	ft/s		$= v_{0x} + a_x t$
$x =$	45	ft		$= x_0 + v_{0x} t + 0.5 a_x t^2$
$v_y =$	-48.225	ft/s		$= v_{0y} + a_y t$
$y =$	63.83125	ft		$= y_0 + v_{0y} t + 0.5 a_y t^2$