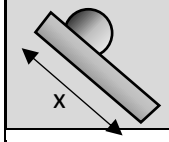
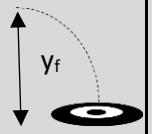
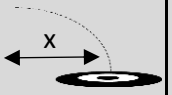
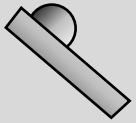
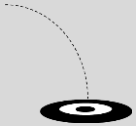
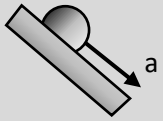
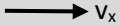
BULLSEYE (Everything Else)	Name: _____ Date: _____
Pre-AP Physics ♦ Lab	**Projectile Motion ♦ Weight = 1**

DIRECTIONS: Complete the lab data below. You will get some of the values you need by **measuring** and some by **calculating**. Below is the formula bank with all the formulas you will need. **NOTE: Show your work on the calculation problems for partial credit.**

FORMULA BANK		
Horizontal Motion Formulas:	$x = \pm v_{xo} \cdot t \pm \frac{1}{2} \cdot a \cdot t^2$	$v = \pm v_{xo} \pm a \cdot t$
x is horizontal distance, v_{xo} is initial horizontal velocity, t is time, a is acceleration, v is final velocity		
Vertical Motion Formulas:	$y = y_o \pm v_{yo} \cdot t - \frac{1}{2} \cdot g \cdot t^2$	$v_y = \pm v_{yo} - g \cdot t$
y is final height, y_o is initial height, v_{yo} is initial vertical velocity, t is time, g is acceleration due to gravity, v_y is final vertical velocity		

Length of ramp, x_r (in m) that the marble rolls down	**Height of table, y_f (in m) above ground**	**Horizontal distance, x, from table to target (in m), where the marble falls**	**Time, t_r (in s) to roll down the ramp to edge of table**	**Time, t_f (in s) marble is in the air after rolling off the table**	**Acceleration, a, of marble down the ramp (in m/s/s)**	**Horizontal velocity, v_x, of the marble (in m/s) when it flies off the table**	**Final vertical velocity, v_y, of the marble (in m/s) when it lands.**	**Final diagonal velocity, v_f, of the marble (in m/s) when it lands.**
								

Work: