Projectile Challenge

Part I: Calculate how fast the launcher shoots projectile

Shoot launcher straight up and measure the maximum height of the ball.

Maximum height = _____ m

Use $v_f^2 = v_i^2 + 2\ a\ d$ where $a = -10\ m/s^2$

Vi = _____

Part II: Calculate how far away to place the cup.

Vi = Vx = _____

X = _____

Projectile Challenge

Part III: Optional Bonus (+1)

Combine the three equations $\bar{v} = \frac{d}{t}$ and $\bar{v} = \frac{v_f + v_i}{2}$ and $a = \frac{v_f - v_i}{t}$

to show that $v_f{}^2 = v_i{}^2 + 2ad$