Physics 200 (Stapleton) Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Projectile Launcher Spreadsheet Practice Problems: For each problem, provide a satisfactory launch angle, muzzle velocity, and launcher setting. Then use the graph below to determine the necessary launcher setting.

There are a variety of possible solutions to each problem. The easiest method is “guess and check.”

1. The target and release point are at equal elevations. The horizontal distance from launcher to target is 5m. There is a 1m tall wall positioned at the midpoint (the 2.5m mark) between the launch pad and the target.

Θ = \_\_\_\_\_\_\_\_ v0 = \_\_\_\_\_\_\_\_ Launcher Setting = \_\_\_\_\_\_\_\_\_\_\_\_

2. Horizontal distance to target = 3.5m. Target is 1.2m above release point.

Θ = \_\_\_\_\_\_\_\_ v0 = \_\_\_\_\_\_\_\_ Launcher Setting = \_\_\_\_\_\_\_\_\_\_\_\_

3. The target and release point are at equal elevations. The horizontal distance to the target is 4m. Three meters from the launcher (1m from the target), there is a wall with a window through which the projectile must be shot. The window is 0.5m tall, spanning a height between 0.75m and 1.25m from the ground.

Θ = \_\_\_\_\_\_\_\_ v0 = \_\_\_\_\_\_\_\_ Launcher Setting = \_\_\_\_\_\_\_\_\_\_\_\_

