

Example Trajectory Calculation Sheet

Team: Example Science School

Members: John Doe, Jane Doe

Givens:

- The event supervisor has placed the close target 2m away, with 0m elevation
- The event supervisor has placed the far target 5.5m away, 2m to the right

Calculations:

- The close target is a total of 2m away
- The dark blue line on the graph is the plot for the foam golf ball projectile
- Along the horizontal axis, a 32 degree arm angle for that projectile is aligned with the 2m mark on the vertical axis
- The far target is a total of $(5.5^2 + 2^2)^{1/2} = 5.85\text{m}$ away
- The green line on the graph is the plot for the racquet ball projectile
- Along the horizontal axis, a 52 degree arm angle for that projectile is aligned with the 5.58m mark on the vertical axis

Results:

- Use the foam golf ball and a 32 degree arm angle for the close target
- Use the racquet ball and a 52 degree arm angle for the far target

