

## Example Trajectory Calculation Sheet - 2020

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  $(5.5*5.5 + 2*2)^{1/2} = 5.85m$  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

