Projectile Motion Lab Report

Physics

This is an individual assignment – you can use your notes and discuss with others as needed, but the report you turn in should reflect your own work, understanding, and thinking. You may hand-write this assignment if you prefer.

1. Draw a sketch of the launcher set-up and clearly indicate the frame of reference you've chosen to work with (where are the zero points? Which directions are positive?). Show the variable inventories (for both the x- and y-components of motion) you would use for a launch at an unknown angle.
2. Using your notes from the lab protocol, clearly show how you derived your equations for t, x, and y (given a launch angle). This corresponds to part 2 of the lab protocol. Make sure you show all your work and indicate which values are measured, calculated, or otherwise known. (You do not need to include your work for part 1 of the lab protocol; these calculations can be included in your equations as measured or calculated values.)
3. Show how you solved the problem given in class (which will include the launch angle) in order to determine the necessary variables. Make sure you clearly document all your work.
4. Was your test successful? Discuss briefly what types of errors might lead to failure – and if you were successful, how your calculations might have avoided those errors.