Physics 40 Projectile Motion Project

Objective: Solve and explain a projectile motion problem

For this project I am asking you to choose a projectile motion problem from the choices on the next page. Please solve this problem and create an accompanying “how to” video explanation. You may use a screen capture software (try screencast-o-matic), you may film your piece of paper, or you may use any other media of your choice but your project must include:

1. Audible narration of your solution to the problem.
2. Visual display of your solution to the problem.

**An example of a good project will be posted on the wikispace. View it before you start.**

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| --- | --- | --- | --- | --- |
|  | 5 | 3 | 1 | Points received |
| Narration | Student clearly and audibly explains every step they took to solve the problem | Student explains most steps/most steps are audible | Student explains few steps/few steps are audible | X2 |
| Visual | Student clearly shows every step they took to solve the problem | Student shows most steps they took to solve the problem | Student shows few steps they took to solve the problem | X2 |

Total: \_\_\_\_\_\_\_\_\_\_\_\_/40

Problems to choose from:

1. A golf player strikes a ball on the ground, giving it an initial velocity of 50m/s at an angle of 34˚   
   above the horizontal.
   1. What is the maximum height the ball achieves? [39.88m]
   2. How far does the ball travel? [263.5m]
2. A cannon is fired at 15° above the ground at 25m/s
   1. How far away does it hit the ground? [31.89m]
   2. What is its maximum height? [2.14m]
3. A potato cannon launches with an initial velocity of 40m/s at an angle of 70 degrees   
   above the horizontal.
   1. What is the maximum height the potato attains? [72.08m]
   2. How far does from the cannon does it travel? [104.95m]
4. A football is thrown from the ground with an initial velocity of 15m/s at an angle of   
   35 degrees
   1. What is the maximum height the football attains? [3.78m]
   2. How far does the football travel? [21.57m]