**Trajectory lab I.**

**Problem: How can you hit a target (piece of paper) that your Nerf gun will hit when you shoot it at 30, 45 and 60 degrees?**

**Material: nerf gun, meter stick and protractor.**

**\*\*Be sure to calculate (3) and measure (3) the distances that the gun shoots.**

**Data:**

|  |  |  |
| --- | --- | --- |
| **Angle** | **Measured Distance** | **Calculated Distance** |
| **30** |  |  |
| **45** |  |  |
| **60** |  |  |

**Initial Velocity: \_\_\_\_\_\_\_\_\_**

**Time:\_\_\_\_\_\_\_\_**

**Calculations: Show your work.**

**Conclusion:**

1. **Use complete sentences.**
2. **50 word minimum.**
3. **Use a book.**
4. **Answer the following questions:**

**What are the definitions for the X and Y components?**

**How did you solve them?**

**Which component did you use for the distance?**

**Why did you use this one?**

**What angle created the longest distance?**

**Why do you think this angle created the longest distance?**