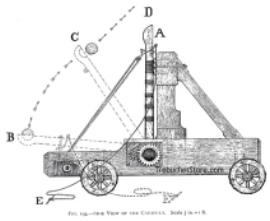
**Name:** _____ **Date:** _____ **Worksheet**
**Physics**

# Trebuchet / Catapult




**Directions:** Determine the average velocity, acceleration and force from the data below.

Isabel built a catapult for her physics class and needs to determine the maximum height and the initial velocity. So, she times 10 missile (tennis ball) launches and obtains the data in the table below.

| Trial | Mass (kg) | Distance (m) | Time (s) |
|---|---|---|---|
| **1** | .0585 | 29.870 | 3.05 |
| **2** | .0585 | 28.346 | 2.50 |
| **3** | .0585 | 28.651 | 2.54 |
| **4** | .0585 | 30.175 | 3.37 |
| **5** | .0585 | 28.041 | 2.37 |
| **6** | .0585 | 28.956 | 2.75 |
| **7** | .0585 | 28.956 | 2.75 |
| **8** | .0585 | 27.736 | 2.17 |
| **9** | .0585 | 29.565 | 2.48 |
| **10** | .0585 | 28.956 | 2.40 |
| **AVE** | | | |

## Calculations

_____ velocity components

_____ impact velocity

_____ maximum height

**"Our greatest glory is not in never falling, but in getting up every time we do."**
**- Confucius**