Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per \_\_\_\_\_\_\_\_\_\_

**Projectile Motion Poster Projec**t (15 pts)

**Goal**: Each student will design and create a poster of a projectile motion problem.

**Requirements:**

1. The problem can be based on our problem sets, the lecture, or may be one that you make up, but it **must** have the projectile start and end at the same height. Your projectile must also be in the air for *at least 6 seconds*. Be creative!
2. The problem must be illustrated (in color) on the poster with a picture.
3. The poster must be labeled with:
   1. Horizontal & Vertical velocity each second, including t = 0 s (draw in the vectors with arrows)
   2. Horizontal Range
   3. Maximum Height
   4. Total velocity at t = 2 seconds (don’t forget to find the angle!)
4. The problem must be solved showing all work on the poster.

**Data:** initial velocity: \_\_\_\_\_\_\_\_\_\_\_\_\_

launch angle: \_\_\_\_\_\_\_\_\_\_\_\_\_

\*Check your initial velocity and launch angle before you begin – is your projectile in the air for at least 6 seconds? If not, pick different values!

**Rubric**

|  |  |  |
| --- | --- | --- |
| **Criteria** | **Possible Points** | **Score** |
| Projectile is in the air for at least 6 seconds | 1 |  |
| Poster is illustrated in color | 2 |  |
| vox each second (with correct vector drawn) | 2 |  |
| voy each second (with correct vector drawn) | 2 |  |
| Horizontal Range (with calculations) | 2 |  |
| Maximum Height (with calculations) | 2 |  |
| Total velocity at t = 2 seconds (with angle and calculations) | 2 |  |
| Creativity of poster and problem | 2 |  |
| **TOTAL** | 15 |  |