

Projectiles Part 1: Horizontal Launch Study Guide

Name _____

You will need to know:

- The “T” chart and the known values that “always” get filed in
- Why the y- plane and x-plane have their respective accelerations

You need to know how to:

1. Determine the horizontal distance (range) an object travels after a given amount of time.
 - a. A soccer ball is kicked with a horizontal velocity of 2m/s and falls for 2s , what is the range of the soccer ball?
2. Determine the distance an object falls after a given amount of time.
 - a. An object travels a horizontal distance of 3m and leaves the surface with a horizontal velocity of 3m/s . What is the distance the object fell?
3. Determine the total time in the air.
 - a. An object falls 3m , and has a horizontal distance of 6m what is the time in the air?
 - b. Can you find the final horizontal velocity of the object above?
4. Determine the velocity vector of an object after a given amount of time.
 - a. An object leaves the surface with a horizontal velocity of 5m/s and falls for 3s . What is the:
 - i. final vertical velocity,
 - ii. velocity vector,
 - iii. range,
 - iv. height?