

Wk 22 Projectile Motion

name :

7. Range (Δx) and Angle

Open the Projectile Motion Simulator at mrmont.com

INPUT DATA
V: 100 m/s
 θ : 60 °
FIRE
RELOAD

OUTPUT DATA
 $\Delta x = 883.7$ m
 $\Delta y = 0$ m
t = 17.7 s

Choose a launch velocity less than 100 m/s - whatever you like, but don't change it after that.

Set the angles according to the data table below.

After it lands, record the range (Δx) and time in the data table.

angle	0	10	20	30	40	45	50	60	70	80	90
range	0										
time	0										

1. What is the pattern with times? Which angles tended to have longer times and which had shorter times?

2. What is the pattern with the range? Which angles tended to have longer ranges and which tended to have shorter ranges?

3. You should see a pattern with complementary angles (angles that add up to 90) - what is it?

4. Which angle has the greatest range?