**Arc Problem Note Guide - Videos 3H Name**

Red Elk hits a golf ball at a speed of 41.3 m/s at an angle of 78.2o above the horizontal. Assume that the ground is level, and ignore air friction.

a) What time is the ball in the air?

b) What is the horizontal distance that the ball goes before striking the ground?

c) What is the speed at the highest point on the ball's trajectory, and what is the greatest height?

|  |  |
| --- | --- |
| H | V |
| x  vi  vf  a  t | x  vi  vf  a  t |

**Use the range equation to find these ranges for the velocities and launch angles. Write down what you put into your calculator. Take the time to see if you can get the same answer with your own calculator.**

Velocity = 12.0 m/s, Launch Angle = 52.0o Range =

Velocity = 21.0 m/s, Launch Angle = 67.0o Range =

Velocity = 31.0 m/s, Launch Angle = 32.0o Range =

**Use the range equation to find the proper launch angles for the following velocities and ranges. Write down what you put into your calculator. Take the time to see if you can get the same answer with your own calculator.**

Velocity = 24.0 m/s, Range = 45.7 m, Launch Angles = and degrees

Velocity = 13.0 m/s, Range = 9.00 m, Launch Angles = and degrees

Velocity = 12.0 m/s, Range = 200. m, Launch Angles = and degrees