**An-Najah National University**

**Numerical Analysis for Engineers (10626251)**

**H.W. #2**

The trajectory of a ball can be computed with:

where is the height (m), is the initial angle (radians), is the initial velocity (m/s), *g* is the gravitational constant = 9.81 m/s2, and is the initial height (m). Use the **golden-section search** to determine the maximum height given m, m/s and . Perform three iterations and estimate *εa* for each iterationusing initial guesses of *xl* = 0 and *xu* = 60 m.