

## Assignment 2 Template

**LAST NAME:** Lawson

**FIRST NAME:** John

**USERID:** jd2lawso

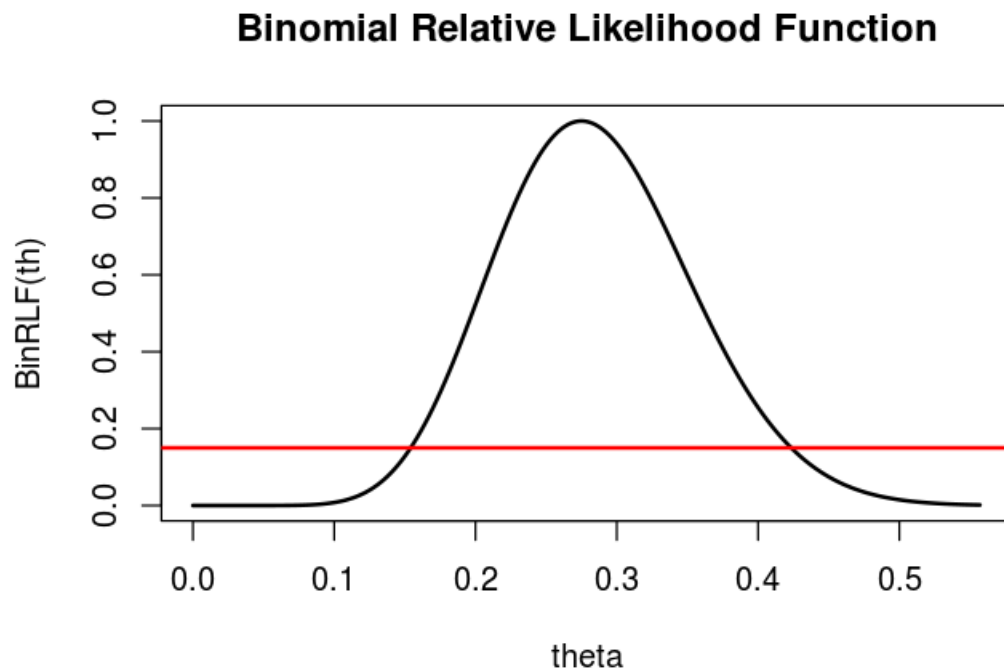
**UWaterloo ID:**20466075

**Problem 1:** Fill in the information below based on your Binomial observation which was generated using your ID number as the random seed.

**Theta = 0.319**

**y = 11**

**The maximum likelihood of theta is  $\hat{\theta} = 0.275$**



**Based on the graph of the relative likelihood function and the line  $y = 0.15$  the 15% likelihood interval for  $\theta$  is:**

**0.15-0.42**

**Using the R function uniroot the 15% likelihood interval is:**

**0.154-0.423**

**Is  $\theta = 0.2$  a plausible value of  $\theta$  for your data set? Why?**

**It is a somewhat likely value for  $\theta$ , because it falls within the 15% likelihood interval**

**Is  $\theta = 0.8$  a plausible value of  $\theta$  for your data set? Why?**

Theta = 0.8 is not a plausible value of  $\theta$ , since it falls outside of the 15% likelihood interval.