# Assignment (8.3) 31- Dec 2017

1. A recent national study showed that approximately 44.7% of college students have used Wikipedia as a source in at least one of their term papers. Let X equal the number of students in a random sample of

size n = 31 who have used Wikipedia as a source.

Perform the below functions

a. Find the probability that X is equal to 17

Sol : - dbinom (17, size = 17, prob = 0.447)

**0.7532248**

b. Find the probability that X is at most 13

Sol: - pbinom(13, size = 31, prob = 0.447)

**0.451357**

c. Find the probability that X is bigger than 11.

Sol : - pbinom(11, size = 31, prob = 0.447, lower.tail = FALSE)

**0.8020339**

d. Find the probability that X is at least 15.

Sol :- pbinom(14, size = 31,prob = 0.447, lower.tail = FALSE)

**0.406024**

e. Find the probability that X is between 16 and 19, inclusive

Sol :- sum(dbinom(16:19, size = 31, prob = 0.447))

**0.2544758**

diff(pbinom(c(19, 15), size = 31, prob = 0.447, lower.tail = FALSE))

**0.2544758**