**SESSION 8 -ASSIGNMENT 3**

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

> dbinom(17, size = 31, prob = 0.447)

[1] 0.07532248

**b. Find the probability that X is at most 13**

> pbinom(13, size = 31, prob = 0.447)

[1] 0.451357

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

> pbinom(11,size=31,prob=0.447,lower.tail = FALSE)

[1] 0.8020339

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

> sum(dbinom(15:31, size = 31, prob = 0.447))

[1] 0.406024

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

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

[1] 0.2544758

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

[1] 0.2544758