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 = θ.447)

b. Find the probability that X is at most 13

> pbinom(13, size = 31, prob = θ.447)

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

> pbinom(11, size = 31, prob = θ.447, lower.tail = FALSE)

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

> pbinom(14, size = 31, prob = θ.447, lower.tail = FALSE)

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

> sum(dbinom(16:19, size = 31, prob = θ.447))