# Problem Statement

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

#given

#size=31

#prob=0.447

#x=binom(size=31,prob=0.447)

#x

1. Find the probability that X is equal to 17

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

[1] 0.07532248

1. Find the probability that X is at most 13

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

[1] 0.451357

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

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

[1] 0.8020339

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

> pbinom(14,size = 31,prob = 0.447,lower.tail = F)

[1] 0.406024

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

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| > #it will take continous values from 16 to 19  > sum(dbinom(16:19,size = 31,prob = 0.447))  [1] 0.2544758  > #or  > #we can do like this too  > diff(pbinom(c(19,15),size = 31,prob = 0.447,lower.tail = F))  [1] 0.2544758 |
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