1. The US Census states that 27.5% of US adults who are at least 25 years old have a college bachelor’s degree or higher. Suppose we take a random sample of 50 adults (age 25 and older).  
   1. Identify the categorical variable of interest in this scenario.
   2. In words, describe what represents.
   3. In words, describe what represents.
   4. Check if a Normal distribution is appropriate to model the sampling distribution for ? If it is appropriate, calculate the mean and standard deviation for the Normal distribution. If not, explain why.
   5. What proportion of random samples would have a less than 0.2?
   6. What proportion of random samples have a between 0.3 and 0.35?
2. It is believed that 42% of all college students in the United States engage in binge drinking (5 or more drinks at a sitting for men, 4 or more for women). Consider a random sample of 100 college students.
3. Identify the categorical variable of interest in this scenario.
4. In words, describe what represents.
5. In words, describe what represents.
6. Check if a Normal distribution is appropriate to model the sampling distribution for ? If it is appropriate, calculate the mean and standard deviation for the Normal distribution. If not, explain why.
7. What proportion of random samples ?
8. Which corresponds to the 20th percentile?
9. Suppose we wanted to use a random sample of only 20 students? Why would a Normal distribution not be appropriate to describe the sampling distribution for the sample proportion of students who engage in binge drinking?
10. Information on a packet of seeds claims that the germination rate is 92%. Assume that seeds are put into packages at random. What's the probability that more than 95% of the 160 seeds in the packet will germinate?