Stat101 Worksheet **Name:**
Sampling distribution of proportion **Section:**

Iowa Poll: Culver takes 7-point lead over Nussle Race is fluid, although many independents back Democrat
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Democrat Chet Culver has moved ahead of Republican Jim Nussle in a hotly contested governor's race that was tied a month ago. A new Des Moines Register poll shows Culver leading Nussle, 46 percent to 39 percent, among Iowans who say they definitely plan to vote, or who have already voted, in the Nov. 7 election. The Iowa Poll, conducted over four days last week, has a margin of error of 3.5 percentage points....

The Iowa Poll, conducted for The Des Moines Register by Selzer & Co. Inc. of Des Moines, is based on interviews with 800 Iowans age 18 or older who say they definitely plan to vote in the Nov. 7 general election, or who say they have already voted.
Interviewers contacted households with randomly selected telephone numbers. Percentages based on the full sample may have a maximum margin of error of plus or minus 3.5 percentage points. Republishing the copyright Iowa Poll without credit to The Des Moines Register is prohibited. The poll, conducted Oct. 8-11, asked the following:
If the election for Iowa governor were held today, and the candidates were Jim Nussle for the Republicans and Chet Culver for the Democrats, for whom would you vote?
Would you say your mind is made up to vote for (Culver/Nussle) or could you still be persuaded to vote for another candidate?
Would you say your feelings toward (Congressman and candidate for governor Jim Nussle/Secretary of State and candidate for governor Chet Culver) are very favorable, mostly favorable, mostly unfavorable or very unfavorable?

1. What is the sample proportion of Iowans in favor of Culver?
2. What is the sample size?
3. Suppose that the true proportion of Iowans who will vote for Culver is 44%:
   (a) What is the mean of the sampling distribution for the proportion of Iowans who will vote for Culver, for samples of size 800?
   (b) What is the standard deviation?
   (c) Check that the two assumptions for the sampling distribution to follow the normal model hold.
   (d) Sketch the sampling distribution.