Foundations for Statistical Inference on your research data

1. What variable are you going to use? Write the variable name and the English label.

Binary Categorical	Continuous
State which of the two group you are interested in analyzing	

2. What is your effective sample size? (Number of non-missing values for that variable in your data set)

n=	n=

3. Calculate the point estimate for each variable.

Sample Proportion $\hat{p}$	Sample mean $\bar{x}$ = `mean(data$var, na.rm=TRUE)`

4. Calculate the standard deviation for each variable.

$s_{\hat{p}} = \sqrt{\hat{p}\,(1-\hat{p})}$	s_x = `sd(data$var, na.rm=TRUE)`

5. Calculate the standard error (SE) for each variable.

$s_{\hat{p}}/\sqrt{n}$	$s_{\bar{x}} = s_x/\sqrt{n}$

6. Calculate an approximate 95% Margin of Error (MOE) for your estimate as 2*SE

$MOE =$	$MOE =$

7. Construct a 95% confidence interval for your estimate.

$(\hat{p} - MOE, \hat{p} + MOE)$	$(\bar{x} - MOE, \bar{x} + MOE)$

8. Interpret this confidence interval in context of your problem.

Binary Categorical	Continuous

9. Construct a testable hypothesis – using English words

Binary Categorical	Continuous

10. Based on your confidence interval generated in step 7 do you believe your research hypothesis will be supported? Explain why or why not.

Binary Categorical	Continuous