1. A recent study examined hearing loss data for 1,771 U.S. teenagers. In this sample, 333 were found to have some level of hearing loss. Your goal is to estimate the true long run proportion of all U.S teenagers who have some level of hearing loss.

    a. Find the observed statistic (also called the point estimate).

    b. Find the margin of error associated with the 95% confidence interval. (3 pts)

    c. Construct a 95% confidence interval for the true long run proportion of all U.S. teenagers who have some level of hearing loss.

    d. Interpret the confidence interval in context.

    Suppose we are interested in whether or 1 in 5 teens have hearing loss or not.

    e. In symbols, state the correct hypotheses to test this claim.

    f. Based on your confidence interval above, would you reject or fail to reject the null hypotheses? Why?