JOHNS HOPKINS
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Lecture 3f: Practice Problems

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Estimating a 95% Confidence Interval

1. Suppose you are interested in estimating the proportion of employed Baltimore residents who use public transportation to get to their workplace on a regular basis. You apriori hypothesize this proportion to be roughly 20%. Suppose this is the (unknown) truth, and you do a study to estimate this proportion. How precise (within what boundaries) will you be able to estimate a 95% confidence interval for this proportion if you take a single random sample based on each of the following sizes?
   a) n = 120
   b) n = 600
   c) n = 1,200

Estimating a 95% Confidence Interval

2. Suppose your hypothesized estimate of the proportion of residents taking public transportation to work was changed to 50%. How precise (within what boundaries) will you be able to estimate a 95% confidence interval for this proportion if you take a single random sample based on each of the following sizes?
   a) n = 120
   b) n = 600
   c) n = 1,200