Week 7 Reading Guide Part 1: Confidence Intervals

## Section 1 – Baby Birth Weights

**What is the process of obtaining one bootstrap resample?**

**With a bootstrap resample, do we put the cards back into the hat once they are drawn? Why not leave them out?**

**With a bootstrap resample, will every observation be sampled at least once?**

**How similar was the resampled slope statistic to the original slope statistic found in the original data?**

## Section 2 – Computer simulation and resampling

**What function comes first in the infer workflow for obtaining multiple resamples?**

**What function comes second in the infer workflow for obtaining multiple resamples?**

**What function comes third in the infer workflow for obtaining multiple resamples?**

**What function comes forth in the infer workflow for obtaining multiple resamples?**

**What is the chief difference between a bootstrap distribution and a sampling distribution?**

**Looking at the bootstrap distribution for the sample slope in Figure 13, between what two values would you say most values lie?**

## Section 3 – Understanding confidence intervals

**If you were to construct a 90% confidence interval using the percentile method, what percentiles would you use to construct the interval?**

**What condition about the bootstrap distribution cannot be violated for us to be able to construct confidence intervals using the standard error method?**

**Say we wanted to construct a 68% confidence interval instead of a 95% confidence interval for** . Describe what changes are needed to make this happen.

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| Tip |
| Hint: I suggest you look at the normal distribution rules from the last chapter. |

## Section 4 – Constructing confidence intervals

**What function helps you visualize your confidence interval?**

## Section 5 – Interpreting confidence intervals

**What value do we hope is contained in our confidence interval?**

**Do we typically know if this value is contained in our interval?**

**If I made 200 90% confidence intervals, how many would you expect to contain the true parameter?**

**What is wrong with the following interpretation of a confidence interval?**

There is a 95% probability that lies between -0.0018 and 0.0285.