Worksheet 12: Confidence intervals

Example 0.97. Recall the brown egg example where $n = 12, \bar{x} = 65.5$ and $\sigma = 2$, find a 95% confidence interval for the population mean μ.

Example 0.98 (Cont'd)**.** For another sample from the same population with the same mean $\bar{x} = 65.5$ but a larger size $n = 48$, find a 95% confidence interval again. How large should the sample size be in order for the margin of error to be 0.2 (at level 95%)?

Example 0.99 (Cont'd)**.** Using the same sample, find 90% and 99% confidence intervals.

Example 0.100. In the brown egg example, we selected a sample of 12 eggs (in a carton) and obtained that $\bar{x} = 65.5$ and $s^2 = 4.69$. Assuming normal population (with unknown variance), find a 95% confidence interval for the population mean.

Example 0.101 (Cont'd). Find a 95% confidence interval for σ^2 based on the same specific sample we have been using: $n = 12, s^2 = 4.69$.

Example 0.102. In the brown egg example, find a 95% upper confidence bound for the population mean μ (when the variance is known $\sigma^2 = 4$).