**Confidence Intervals for Means of a Single Population**

**Lab Submission Template**

**Ex. 1:**

**PASTE PLOT HERE**

**Ex. 2:**

|  |  |  |
| --- | --- | --- |
|  | Using known sigma | Using sample s.d. |
| Using z-multipliers | Paste # from Case 1(a) here | Paste # from Case 2(a) here |
| Using t-multipliers | Paste # from Case 1(b) here | Paste # from Case 2(b) here |

Now, based on these numbers you’ve just generated, discuss what is going on. Perhaps you’ll want to refer back to our conversations in lectures about why it would be necessary to use t rather than z (t accounts for some additional uncertainty/variability – from what? How does that help explain what you’ve seen here?)

|  |
| --- |
| **Answer:** |

**Ex. 3:**

|  |  |
| --- | --- |
| New value for sample size | Actual number of successes |
| n = 10 |  |
| n = 20 |  |
| n = 30 |  |
| n = 50 |  |

Comment on the results. Why does the confidence interval appear to work as advertised in some cases and not in others? What theorem justifies these results?

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| **Answer:** |

**Ex. 4:**

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| **95% CI:**  **Interpretation:** |

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| --- |
| **90% CI:** |

|  |
| --- |
| **99% CI:** |

|  |
| --- |
| **Comment on widths:** |