

Section 10.6 — Examples

Problem: Construct a 98% confidence interval for σ^2 from the following data:

4.9, 5.2, 5.9, 4.8, 4.5, 5.1

Problem: A new method for measuring room temperature is developed, and a sample of measurements (shown below) of a room having true temperature 80 degrees F is produced. Is the instrument more accurate than the current method, which has $\sigma^2 = 0.65$? Test with $\alpha = 0.5$.

80.10, 80.03, 79.87, 81.01, 79.50, 80.69, 80.90

Note: $n = 7$, $\bar{x} = 80.3$, $s^2 = \frac{1.954}{6} = 0.326$.