5. The table below gives the carapace lengths of ten mature *Thenus orientalis* lobsters caught in the sea in the vicinity of Singapore. Suppose you wish to describe the variability of the carapace lengths of this population of lobsters. Find a 99% confidence interval for the population variance $σ^{2}.$

Carapace Length (mm)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 78 | 66 | 65 | 63 | 60 | 60 | 58 | 56 | 52 | 50 |