PS4 Q2:

![Chart

Description automatically generated]()

Q5:

![Chart, line chart

Description automatically generated]()

95% confidence interval, total\_pop @ t=299: (200.22, 8.325786548500988)

95% confidence interval, resistant\_pop @ t=299: (200.22, 8.325786548500988)

![Chart, line chart

Description automatically generated]()

95% confidence interval, total\_pop @ t=299: (0.0, 0.0)

95% confidence interval, resistant\_pop @ t=299: (0.0, 0.0)

1. Sim A: population increases rapidly. Sim B: population gros but then begins to drop
2. Sim A: resistant pop grows but then falters. Sim B: resistant pop grows quickly the falters
3. Total population becomes resistant population after introducing antibiotic (all non-resistant bacteria die for both simulations
4. Sim A: population begins to grow, likely as a result of lower population density. Sim B: resistant population goes to zero.