Confidence Intervals

1. Let $X_1, \ldots, X_n \overset{\text{iid}}{\sim} N(\mu, \sigma^2)$ with both μ and σ^2 unknown. Obtain an exact γ-coefficient confidence interval for σ^2. *Be careful about inequality rules!*

2. Let $X_1, \ldots, X_n \overset{\text{iid}}{\sim} N(\mu, \sigma^2)$ where both μ and σ^2 are unknown. We want to construct an exact one-sided γ-coefficient confidence interval for μ of the form: $[A(\mathbf{X}), \infty)$.

   (a) Clearly state the probability statement about $A(\mathbf{X})$ involving μ that this interval estimator should satisfy. i.e. $\Pr(...) = ...$

   (b) Now find your confidence interval!