Pre-class preparation

Please read the following textbook sections from Degroot and Schervish's *Probability and Statistics* (fourth edition) or watch the video, as indicated:

- Video: `https://expl.ai/SNWKUQA`

Objectives

By the end of the day's class, students should be able to do the following:

- Give the definition of sample moments.
- Calculate a methods of moment estimator for unknown parameter(s) θ or $\boldsymbol{\theta}$.
- Demonstrate consistency of methods of moments estimators on a case-by-case basis.

Reflection Questions

Please submit your answers to the following questions to the corresponding Canvas assignment by 8:45AM:

1. Suppose $X_1, \ldots, X_n | \theta \overset{\text{iid}}{\sim} \text{Exp}(\theta)$. What is the method of moments estimator for θ?
2. What is one advantage of using the Method of Moments to find an estimator, compared to use the Method of Maximum Likelihood or obtaining a Bayes estimator?
3. (Optional) Is there anything from the pre-class preparation that you have questions about? What topics would you like would you like some more clarification on?