

## 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)  $\theta$ .
- Provide the definition of the Mean Squared Error of an estimator for an unknown parameter  $\theta$  (in-class lecture).

## Reflection Questions

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

1. Suppose  $X_1, \dots, X_n | \theta \stackrel{\text{iid}}{\sim} \text{Exp}(\theta)$ . What is the method of moments estimator for  $\theta$ ?
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?