I. **Sections to Read** (All content from DeGroot and Schervish's *Probability and Statistics* unless otherwise noted) A digital copy of the textbook is available for on our class PWeb site, under the Day One Access tab.

(a) Section 7.6 (just pages 430 - 434: Method of Moments and M.L.E.'s and the Bayes Estimator)

II. **Objectives** (By the end of the day's class, students should be able to do the following:)

- Give the definition of the method of moments, and provide an informal description of its use.
- Calculate the methods of moment estimator for several common likelihood functions: Binomial, Poisson, Uniform, Normal, Gamma.
- Compare the MLE, the Method of Moments Estimator, and the Bayes Estimator for a given sampling method

III. **Reflection Questions** (Submit answers on Gradescope `https://www.gradescope.com`)

1) What is one advantage of using the Method of Moments to find an estimator, compared to use the Method of Maximum Likelihood or the Bayes Estimator Procedure?
2) What is one limitation of the Method of Moments, compared to the Method of Maximum Likelihood?
3) Suppose $X_1, \ldots, X_n$ are iid $N(\mu, 1)$. What is the method of moments estimator for μ?

IV. **Additional Feedback** Are there any topics you would like further clarification about? Do you have any additional questions based on the readings / videos? *If not, you may leave this section blank.*