Instructions: Write-up complete solutions to the following problems and submit answers on Gradescope. Your solutions should be neatly-written, show all work and computations, include figures or graphs where appropriate, and include some written explanation of your method or process (enough that I can understand your reasoning without having to guess or make assumptions). A rubric for homework problems appears on the final page of this assignment.

• Unless otherwise noted, problem numbers are taken from the 4th edition of DeGroot and Schervish's *Probability and Statistics*.

Monday 1/30

Section 7.2: 3, 6, 7, 9

Wednesday 2/1

Section 7.3: 10, 14, 18, 21

Friday 2/3

Section 7.4: 2, 3, 12, 15

Optional Problems: Section 7.3: 23, 24. These problems will not be graded and do not need to be submitted. However, they may be of interest to you if you'd like to further investigate the theory connecting conjugate families of prior distributions to likelihood functions.

Homework 2 1/30 - 2/3 Due 11:59pm Monday, February 6 Name:

General Rubric

Points	Criteria
5	The solution is correct and well-written. The author leaves no doubt as to why the solution is valid.
4.5	The solution is well-written, and is correct except for some minor arithmetic or calculation mistake.
4	The solution is technically correct, but author has omitted some key justification for why the solution is valid. Alternatively, the solution is well-written, but is missing a small, but essential component.
3	The solution is well-written, but either overlooks a significant component of the problem or makes a significant mistake. Alternatively, in a multi-part problem, a majority of the solutions are correct and well-written, but one part is missing or is significantly incorrect
2	The solution is either correct but not adequately written, or it is adequately written but overlooks a significant component of the problem or makes a sig- nificant mistake.
1	The solution is rudimentary, but contains some rel- evant ideas. Alternatively, the solution briefly in- dicates the correct answer, but provides no further justification
0	Either the solution is missing entirely, or the author makes no non-trivial progress toward a solution (i.e. just writes the statement of the problem and/or re- states given information)
Notes:	For problems with multiple parts, the score repre- sents a holistic review of the entire problem.
	Additionally, half-points may be used if the solution falls between two point values above.