

MATH 358/658 Assignment 5  
Due March 3.

- Page 393 #4, #5, #6, #7
- Page 406 #3, #5
- Page 406 #12 Make plots of both the prior and the posterior distribution using R. Check out the file “R Script to Show Posteriors.R” under Resources on Sakai.
- Page 406 #14
- Page 406 #15
- Page 407 #18  
When you are faced with an ugly looking integral, usually the simplest way forward is to recognize that  $\xi(\theta | X) \propto f(X | \theta)\xi(\theta)$  has to be a valid density function of  $\theta$ , meaning it must integrate to 1 over  $\Omega$ . Usually you can recognize what family of distributions the posterior comes from, and then use your knowledge of that family to figure out what the constant should be.