Homework 7

625.433

1. (50 pts.) Exercise 7.5 (don't worry about part c.)

2. (50 pts). A remarkable feature of the Gibbs sampler is that the conditional distributions contain sufficient information to generate a sample from the joint distribution. The following result shows that it is possible to directly express the joint pdf in terms of the conditional pdfs. Namely,

$$f(x,y) = \frac{f(y|x)}{\int \frac{f(y|x)}{f(x|y)} dy}.$$

   Prove this result.