Statistics 394, Problem Set 6

Wellner; 2/9/2000

Reading:	Kelly, Chapter 3, Sections 3.4 - 3.6.
Optional Web Reading:	Section I.C.4,5, & 6, Distributions, Conditional distributions, & Distribution Functions at http://www.math.uah.edu/stat/dist/index.html .
Due:	Wednesday, February 16, 2000.

1. K 3.4, # 2 (page 188).
2. K 3.4, # 5 (page 188).
3. K 3.4, # 10 (page 189).
4. K 3.4, # 11 (page 189).
5. K 3.5, # 4 (page 206).
6. K 3.5, # 8 (page 207).
7. Bonus Problem: Look at the Bivariate Uniform Experiment at the Virtual Laboratories website:

   `http://www.math.uah.edu/stat/dist/index.html`

   (a) For the triangle part of this experiment, give a picture showing the region where the density is positive and where it is zero.
   (b) Find the conditional density of $(Y|X = x)$ for x in the range -6 to 6.
   (c) Verify that the blue line in the picture gives $r(x) \equiv E(Y|X = x)$.