Statistics 394, Problem Set 1

Wellner; 1/5/2000

Reading: Kelly, Chapter 1, Appendices A and B.
Due: Wednesday, January 12, 2000

1. K, 1.1, # 5, but assume that the dice are not fair; instead, if Y denotes the outcome of tossing a single die, assume that $P(Y = i)$ is proportional to i for $i = 1, \ldots, 6$. First, find these six probabilities. Then solve questions a(ii), a(iii), a(v), and b.

2. K, 1.1, # 8, but do with *five* slips of paper numbered $1, 2, 3, 4, 5$.

3. K, 1.2, # 5, but assume that $P(HEAD) = 2/3$, not $1/2$.

4. K, 1.2, # 19, but assume that only 10 people favor A while the other 1235 favor B.

5. K, 1.3, # 7: justify your answers.

6. K, 1.3, # 11, but in parts a,b,c,d, express your answers in terms of "e". In part e, name the distribution.

7. K, 1.3, # 14: omit parts a,b,c,d. Instead find the probability of the event that the random point lies within $1/2$ unit of the center *and* lies in the first quadrant of the disk.