9/23/2004 MA371 Intro. To Prob. & Stats. Name:_____
Dr. Lunsford Quiz 2 (20 Points Total)

I. Suppose A and B are events in a sample space S and P is a probability function on S such that $P(A) = .45$, $P(B) = .75$, and $P(A \cup B) = .95$. Find the indicated probabilities. You must show at least one intermediate step on each problem to receive full credit. (13 points total)

(a) $P(A \cap B)$
(3 points)

(b) $P(A' \cap B)$
(4 points)

(c) $P(A' \cap B')$
(4 points)

(d) $P(B')$
(2 points)

II. The chair of the mathematics department must assign professors to teach three different upper level mathematics courses. Given that there are six professors who can teach the courses and that at most one course will be assigned to a single professor, how many possible ways can the department chair assign the professors to teach the courses? (3 points)

III. While at Walmart one Saturday afternoon, Dr. L. encounters a person trying to give away 10 kittens (all in a large cardboard box). Four of the kittens have yellow stripes and the others are solid grey. Being in the market for two new cats and believing that all kittens are equally worthy of human adoration, Dr. L. closes her eyes and randomly draws two kittens from the box. What is the probability that she will get two kittens with yellow stripes? (4 points)