

LA Session – Probability 1

- 1) 30 tickets are sold in a raffle where 4 prizes will be given. Terri buys 3 of the tickets. What is the probability that Terri wins 0 prizes? 1 prize? 2 prizes? 3 prizes?
- 2) The integers from 1 to 10, inclusive, are partitioned at random into two sets of five elements each. What is the probability that 1 and 2 are in the same set?
- 3) Sam's probability of getting an A on an individual test is 80%. If he takes ten tests, what is the probability he gets As on exactly 7 of those tests?
- 4) Suppose that one person in 1,000 people has a rare genetic disease. There is an excellent test for the disease; 99% of the people with the disease test positive and only 3% of the people who don't have it test positive. What is the probability that someone who tests positive has the disease? What is the probability that someone who tests negative does not have the disease?
- 5) Suppose E and F are events in a sample space and $p(E) = 2/3$, $p(F) = 3/4$, and $p(F | E) = 9/10$. Find $p(E | F)$.