

MGF 1107

PROBLEM SET 11

1. A congressman holds an outdoor picnic every labor day for his constituents. Past experience has shown he gets an average turnout of 900 people when it doesn't rain and 200 people when it does rain. The forecast for this year's picnic calls for a 70% chance of rain. How many people should the congressman expect at his picnic?

2. At the picnic, the congressman holds a raffle as a fundraiser. For a \$2 raffle ticket, a grand prize of \$100 is offered along with two second prizes of \$50 each. 300 raffle tickets are sold.

a) What is the expected payout to someone who purchases a ticket?

b) How much will the congressman make from running the raffle?

3. The congressman holds his yearly picnic at either Tropical Park or Tamiami Park. Over the years he has held it at Tamiami Park $\frac{2}{11}$ of the time. What is the probability that, in a randomly selected year, he holds the event at Tropical Park?

4. The Congressman has 2 opponents in the Democratic primary, Marta Rodriguez and Javier Sosa. If Rodriguez is favored by $\frac{1}{5}$ of the voters, Sosa is favored by $\frac{1}{4}$ of the voters, and $\frac{1}{10}$ of the voters are undecided, what fraction of the voters favor the Congressman?