Stat 185 - In class problems
Monday, October 2

1. I've got a fair, 10 sided die with

   - 4 sides labeled 1,
   - 2 sides labeled 3,
   - 3 sides labeled 5, and
   - 1 side labeled 6

   For this die,

   (a) Write down the corresponding probability distribution,
   (b) Compute the expectation associated with one roll, and
   (c) Compute the standard deviation associated with one roll.

2. The cost of a Fast $500 lottery ticket in the NC "Educational" lottery is $5 and the payouts are as follows:

payout	$150000	$500	$100	$40	$25	$20	$ 10	$5
Odds: (1/in)	1560000	779.22	400	131.58	303.8	30	12	8.57

   What is the expected value of a ticket?
   Don't forget to include the cost of the ticket!

3. Approximately 22% of adult North carolinians smoke. Given a random sample of 10 adult North Carolinians, what is the probability that exactly 2 or 3 of them smoke?