

Mathematics 107

Homework # 10

Due: *Tuesday, December 5th*

1. Problem 11.12, page 371
2. Problem 11.16, page 373
3. Problem 11.22, page 377

4. An airline official wanted to learn if increasing the amount of space for a passenger will make his airline more attractive. He thought that if this is the case, then the airline preferences would depend on the height of a person. Thus, he asked 170 men (which he divided into three groups: short, tall and “average” ones) about their favorite airlines. The answers he received are given in the table below:

	Delta	United Airlines	Southwest
men shorter than 5’3”	16	17	11
men between 5’3” and 6’1”	28	26	16
men taller than 6’1”	20	21	15

Based on these data check, at the level of significance $\alpha = 0.05$, if the height of a person influences his choice of a favorite airline.

5. There are three major political parties in Northumbria: HGSS (*Honor, Glory, and Similar Stuff*), VNPI (*Very Nice People Indeed*), and LLLP (*Liberals, Libertarians, and Librarians Partnership*). In the last elections they got the following number of votes in the three provinces of Northumbria:

	East North.	Central North.	West North.
HGSS	12387	15782	11383
VNPI	6173	7993	5783
LLLP	1100	1423	987

Can we claim, at the level of significance $\alpha = 0.01$, that in Northumbria political preferences of voters depend on the place they live?