

(8 points : 10 minutes)

8. A company makes a sleep aid medication. They are concerned that alcohol use may interfere with the medications effectiveness, so that people who drink take longer to fall asleep. Use the data below to test whether the time needed to fall asleep after taking the medication is independent of a person's level of alcohol use.

Amount of daily alcohol use	Minutes needed before sleep			Total
	0-10	10-20	20-30	
none	117	269	114	500
1 to 2 drinks	90	240	170	500
3 or more drinks	82	239	179	500
Total	289	748	463	1500

(7 points : 10 minutes)

10. A major news organization is interested in the public issues that registered voters think are most important. A stratified random sample of 320 registered voters is selected to represent the whole population of voters. Each voter is asked to select from a list of 8 issues the one that is most important. Compare the results to see if they are significantly different from the proportions expected by the news organization that carried out the study. (Let α be 0.05 for the test.)

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Issue	Proportions	
	Expected	In Sample
Traffic Congestion	10%	30%
Pollution	10%	5%
Taxes	10%	25%
Deficits	10%	5%
Death Penalty	5%	5%
Iraq War	25%	20%
Education	10%	5%
Health Care	20%	5%