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Statistics 3352

Problem Set VII

Due April 30.

All write-ups should be individually done, complete, neat and precise. Please tell me anyone you worked with or got help from. You may use our book, your notes and me without attribution. Other sources of information, in particular online resources and AI, you need to tell me the place in each problem where you used it. If you are relying heavily on resources beyond your own thoughts, it is wholly your responsibility to understand waht you are writing down in terms you danh explain. If you write up a sophisticated solution to a problem that lloks like you do not understand what you are writing I will not grade it until we have talked it through. At that point I will, at minimum, not give you credit for anything I believe you used unacknowledged resources on, and may take off points for writing up acknowledged resources without sufficient understanding.

1. [4pt] Question 13.44, p. 378: Notice this is not two independent samples, it is a single sample from a single population.

2. [4pt] Question 13.47, p. 378: Test of variance.

3. [4pt] Question 13.14, p. 375: Row and column totals of expected cells equals those of actual cells.

4. [4pt] Question 13.16 on paqe 375: $\chi^2 = \sum_{i=1}^{r} \sum_{j=1}^{c} f_{ij}^2 / e_{ij} - f$.

5. Analysis of two boys' Halloween baskets revealed the following counts:

	Chocolate	Tootsie	Starburst	Lollypop	Other	Total
Oliver	4	45	16	14	16	95
Willy	20	29	3	3	12	67

[4pt] Test at the 1% significance level whether the boys were sampling from a different population of houses. Don't forget to notice that column labeled Total! Be sure to: Check each assumption; report the p-value; give your conclusion in a simple English sentence. If there is a significant difference, identify what it is the most significant difference is and support it based on chi-squared values. (e.g. Willy had a higher percentage of Tootsie rolls but Oliver had more Other).