

STAT 479
Quiz 4
Spring 2020
March 10, 2020

1. During the last calendar year, Purdue incurred 100 worker's compensation claims which are summarized in the following table:

Amount of Claim	Number of Claims
0 – 5000	14
5000-15,000	16
15,000-45,000	40
More than 45,000	30

Sally wants to test the following hypothesis using the Chi Square Test at a 10% significance level:

H_0 : Workers Compensation claims are uniformly distributed with $\theta = 60,000$.

H_1 : Workers Compensation claims are not uniformly distributed with $\theta = 60,000$.

Calculate the Chi Square test statistic.

Determine the critical value for this test.

State your conclusion with regard to the hypothesis.

2. Yu Fire Company has experienced the following four claims this year:

5000 25,000 50,000 60,000

The company's actuary, Jiaxin, wants to test the following hypothesis using the Kolmogorov-Smirnov Test with a 10% significance level:

H_0 : Claims are distributed as an exponential distribution with $\theta = 40,000$.

H_1 : Claims are not distributed as an exponential distribution with $\theta = 40,000$.

Calculate the Kolmogorov-Smirnov test statistic.

Calculate the critical value.

State your conclusion with regard to Jiaxin's hypothesis.