Demo Solution

Edmond Questions:

Q-1:

Now, let's interpret the results:

- **Significance Level**: If we choose a significance level of, say, 0.05, then a p-value less than 0.05 indicates statistical significance.
- **Interpretation**:
    - Since the p-value for the one-tailed test (0.044264303) is less than 0.05, we reject the null hypothesis. This suggests that there is evidence to conclude that metro EV owners travel further than their regional counterparts.
    - For the two-tailed test, the p-value is 0.088528606, which is greater than 0.05 but less than 0.1. This suggests some evidence against the null hypothesis but not strong enough to reach conventional levels of statistical significance.

In conclusion, based on the one-tailed test, there is evidence to suggest that metro EV owners travel further annually compared to regional EV owners.

Q-2:

Interpretation:

- The p-value (0.1387) is greater than the chosen significance level (e.g., 0.05), indicating that we fail to reject the null hypothesis.
- Therefore, there is not enough evidence to conclude that there is a significant association between locality and EV towing.
- In other words, we do not have sufficient evidence to claim that fewer EV owners in metro areas are using their vehicles for towing compared to those in regional areas.
- The proportion of EV owners using their vehicles for towing in metro and regional areas can be calculated using the observed frequencies and the total number of EV owners in each area.

In summary, based on the chi-square test results, there is no significant association between locality and EV towing, and we cannot conclude that there are fewer EV owners in metro areas using their vehicles for towing than those in regional areas.

Q-3: