Question?

**1**. Sixty-four students in an introductory college economics class were asked how many credits they had earned in college, and how certain they were about their choice of major. Research question: At α = .02, is the degree of certainty independent of credits earned?

|  |  |  |  |
| --- | --- | --- | --- |
| Observed frequencies |  |  |  |
| **Credits Earned** | **Very Uncertain** | **Somewhat Certain** | **Very Certain** | **Row Total** |
| **0–9** | 12 | 8 | 3 | **23** |
| **10–59** | 8 | 4 | 9 | **21** |
| **60 or more** | 1 | 7 | 12 | **20** |
| **Col Total** | **21** | **19** | **24** | **64** |
|  |  |  |  |  |

Step 1: State the null and alternate hypotheses

Step 2: Select level of significance

 a = 0.2

Step 3: Identify the test statistic and state its formula

Step 4: Formulate a decision rule

Step 5: Make a decision

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**2**. A student team examined parked cars in four different suburban shopping malls. One hundred vehicles were examined in each location. Research question: At α = .025, does vehicle type vary by mall location?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Observed frequencies |  |  |  |  |
| **Vehicle Type** | **Somerset** | **Oakland** | **Great Lakes** | **Jamestown** | **Row Total** |
| **Car** | 44 | 49 | 36 | 64 | **193** |
| **Minivan** | 21 | 14 | 18 | 13 | **66** |
| **Full-sized Van** | 2 | 5 | 4 | 2 | **13** |
| **SUV** | 19 | 26 | 25 | 12 | **82** |
| **Truck** | 14 | 6 | 17 | 9 | **46** |
| **Col Total** | **100** | **100** | **100** | **100** | **400** |

Step 1: State the null and alternate hypotheses

Step 2: Select a level of significance

|  |  |
| --- | --- |
| α =  | 0.025 |

Step: 3 Identify the test statistic and state its formula

Step: 4 Formulate a decision rule

Step: 5 Make a decision