**Individual assignment 2**

**Please specify the question number clearly in your answers. Fail to do so will result in a deduction of 5 points.**

The following questions are related to topics in Chapter 16.

**Question 1 (45 points total):**

**A local car dealer is attempting to determine the effect of different premiums on attracting visitors to its showroom. An individual who visits the showroom and takes a test ride is given a premium with no obligation. The dealer chose five premiums and offered each for one week. The results are as follows:**

|  |  |  |
| --- | --- | --- |
| Week | Premium | Total Given Out |
| 1 | Four-foot metal stepladder | 430 |
| 2 | $50 savings bond | 600 |
| 3 | Dinner for four at a local steakhouse | 503 |
| 4 | Six pink flamingos plus an outdoor thermometer | 707 |
| 5 | 10% off coupon | 599 |

1(a): Please identify the research question (one sentence) (5 points).

(Here are some examples of the research question:

How/why A is related to B?

Does A cause/equal/bigger/smaller/explain than B?

Whether A is equal/bigger/smaller than B?)

1(b) Please generate the appropriate hypothesis (10 points)

H0:

Ha:

1(c): Find the appropriate statistical test, compute the test statistics. (alpha value=.05)

Please provide detailed calculation procedures. (25points)

1(d): Based on your computed test statistics, draw your conclusions (5 points)

**2. What conclusion(s) can you make from the following cross tabulation? (5 points)**

**(Note: This is a multiple-choice question with single answer. You can simply put the option and don’t need to elaborate your answer)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Number of Children | | |
| Ever Divorced | 1 or less | 2 to 4 | 5 or more |
| Yes | 9% | 63% | 92% |
| No | 91% | 37% | 8% |
| Total | 100% | 100% | 100% |

a. Having more children increases the divorce rate.

b. Getting divorced makes a couple have more children.

c. The more children a person has the more likely s/he is to be divorced.

d. All of the above can be correctly concluded from the cross-tabulation.

e. None of the above can be concluded from the cross-tabulation.