Deliverable 05 – Worksheet

**Instructions:** The following worksheet describes two examples – one is an example for independent samples and the other one for dependent samples. Your job is to demonstrate the solution to each scenario by showing how to work through each example in detail. You are expected to explain all of the steps in your own words.

**1) Independent samples:**One of our researchers wishes to determine whether people with high blood pressure can reduce their systolic blood pressure by taking a new drug we have developed. The sample data is shown below, where x̅1 represents the mean blood pressure of the treatment group and x̅2 represents the mean for the control group. Use a significance level of 0.05 and the critical value method to test the claim that the diet reduces the blood pressure. We do not know the values of the population standard deviations. Please use the following critical value for this test: **2.378.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Treatment Group | | | | Control Group | | | |
| n1 | | **85** | | **n2** | | **75** | |
|  | | **189.1** | |  | | **203.7** | |
| s1 | | **38.7** | | **s2** | | **39.2** | |
|  | |  | |  | |  | |

**Answer and Explanation**

*Enter your step-by-step description and explanations here.*

**2) Dependent samples**

This same new drug was tested on another group, but this time the test was done before the drug was administered, and then tested after the drug was given to the same group. The results are shown in the table below:

|  |  |  |
| --- | --- | --- |
| **Subject** | **Before** | **After** |
| **1** | 200 | 191 |
| **2** | 174 | 170 |
| **3** | 198 | 177 |
| **4** | 170 | 167 |
| **5** | 179 | 159 |
| **6** | 182 | 151 |
| **7** | 193 | 176 |
| **8** | 209 | 183 |
| **9** | 185 | 159 |
| **10** | 155 | 145 |
| **11** | 169 | 146 |
| **12** | 210 | 177 |

**Answer and Explanation**

*Enter your step-by-step description and explanations here.*