**Dependent-Samples *t-*Test – (Productivity Level)**

A researcher wants to know whether the size of a person’s computer monitor has any effect on their productivity level. Each of 10 participants completed a task first on a 15-inch monitor and then again on a 42-inch monitor. The number of minutes it took participants to complete the task was recorded as a measure of productivity.

**Step 1. State your hypotheses.**

**a. Is it a one-tailed or two-tailed test?**

**b. Research hypotheses**

**HA:**

**H0:**

**c. Statistical hypotheses**

 **HA:**

**H0:**

**Step 2. Set the significance level 🡺 α = .05 Determine tcrit. tcrit = \_\_\_\_\_\_\_\_\_**

**Step 3. Select and compute the appropriate statistical test.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 15 in. | 42 in. |  |  |  |
| 5 | 2 |  |  |  |
| 4 | 3 |  |  |  |
| 4 | 1 |  |  |  |
| 2 | 3 |  |  |  |
| 6 | 3 |  |  |  |
| 3 | 1 |  |  |  |
| 5 | 4 |  |  |  |
| 2 | 2 |  |  |  |
| 2 | 1 |  |  |  |
| 4 | 2 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**Step 4. Make a decision.** Determine whether the value of the test statistic is in the critical region. Draw a picture. Label tcrit and tobt.

Is tobt in the critical region? \_\_\_\_\_\_\_\_\_\_

Should you reject or retain the H0? \_\_\_\_\_\_\_\_\_\_

**Step 5. Report the statistical results.**

**Step 6. Write a conclusion.**

**Step 7. If appropriate, compute the estimated d.**

**Step 8. If appropriate, compute r2 and write a conclusion.**