

Statistics Worksheet - 8

- ① (b) Probability of failing to reject  $H_0$  when  $H_1$  is true
- ② (b) null hypothesis
- ③ (d) Type I error.
- ④ (b) the  $t$  distribution with  $n-1$  degrees of freedom
- ⑤ (a) accepting  $H_0$  when it's false
- ⑥ (d) a two tailed test
- ⑦ (b) the probability of committing a Type I error.
- ⑧ (a) the probability of committing a Type II error
- ⑨ (a)  $z_{\alpha/2}$
- ⑩ (c) the level of significance
- ⑪ (a) level of significance.
- ⑫ (a) degrees of freedom.

(13) Anova in SPSS is used for examining the differences in the mean values of the dependent variable associated with the effect of the controlled independent variables, after taking into account the influence of the uncontrolled independent variables. It is used to test the means of 2 or more populations.

(14) To use the Anova test, we made the following assumptions:-

- Each group sample is drawn from a normally distributed population.
- All populations have a common variance.
- All samples are drawn independently of each other.
- Within each sample, the observations are sampled randomly and independently of each other.
- Factor effects are additive.



(15)

### One-way Anova

- A test that allows one to make comparisons between the mean of three or more groups of data

~~has~~

- have one independent variable

- It compares mean of 3 or more groups of an independent variable on a dependent variable

- It has 3 or more groups of samples

### Two-way ANOVA.

A test that allows one to make comparisons between the means of 3 or more groups of data where 2 independent variables are considered.

have two independent variables

It compares the effect of multiple groups of two independent variables on a dependent variable and on each other

Each variable should have multiple samples