

1. If  $\bar{Y}_{.j} \neq \bar{Y}_{.k}$  for some  $j \neq k$ , then there are differences, with respect to the population mean of a continuous variable, across groups of experimental units.

True

False

2. In the context of one-way ANOVA,

$$\sum_{j=1}^J \sum_{i=1}^{n_j} (Y_{i,j} - \bar{Y}_{..})^2$$

is the total sum of squares.

True

False

3. In the context of one-way ANOVA,  $\sum_{j=1}^J (\bar{Y}_{.j} - \bar{Y}_{..})^2$  is a measure of:

Total variability in the sample

Between group variability in the sample

Within group variability in the sample

None of the above

4. In the context of one-way ANOVA,  $\sum_{j=1}^J \sum_{i=1}^{n_j} (Y_{i,j} - \bar{Y}_{..})^2$  is a measure of:

Total variability in the sample

Between group variability in the sample

Within group variability in the sample

None of the above

5. In the context of one-way ANOVA,  $\sum_{i=1}^{n_j} (Y_{i,j} - \bar{Y}_{.j})^2$  is a measure of:

Total variability in the sample

Between group variability in the sample

Within group variability in the sample

None of the above

6. In the context of one-way ANOVA, the total variability is equal to the between groups variability plus the within group variability.

True

False