

For each of the questions below, place a check next to the correct response.

Problem 1: An ANOVA F -test is most like...

- (a) _____ a simple linear regression.
- (b) a two-sample t -test.
- (c) _____ a one-sample t -test.

Problem 2: If you had an experiment with one factor with 4 subgroups, each with 5 observations, then the degrees of freedom for the F -test are...

- (a) 3 and 16.
- (b) _____ 4 and 20.
- (c) _____ 3 and 17.

Problem 3: If you computed an ANOVA F -test and obtained a p -value of 0.001 (assuming significance $\alpha = 0.05$), this means that...

- (a) _____ all the groups have the same mean.
- (b) _____ all the groups have different means.
- (c) some of the group means are different from the others.

Problem 4: Suppose you have four groups upon which you want to perform an ANOVA. They have standard deviations $s_1 = 2.2$, $s_2 = 3.8$, $s_3 = 5.9$, and $s_4 = 4.1$. The plots of the data show the samples are approximately normal. Is an ANOVA test appropriate?

- (a) _____ Yes
- (b) No

Problem 5: Below is an ANOVA table. The estimate of the common standard deviation is...

Source	DF	SS	MS	F	P
Groups	3	57.65	19.217	10.881	0.000
Error	50	88.31	1.766		
Total	53	145.96			

- (a) _____ 145.96
- (b) _____ 1.766
- (c) 1.329