

1/6 Submissions Used

ROSBIOSTAT8 12.E.001-005.S.

MY NOTES

ASK YOUR TEACHER

Nutrition

Researchers compared protein intake among three groups of postmenopausal women: (1) women eating a standard American diet (STD), (2) women eating a lacto-ovo-vegetarian diet (LAC), and (3) women eating a strict vegetarian diet (VEG). The mean ± 1 sd for protein intake (mg) is presented in the table below.

Protein Intake (mg) **Among Three Dietary Groups of Postmenopausal**

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Group	Mean	sd	n		
STD	76	8	10		
LAC	56	14	10		
VEG	48	16	8		

□ USE SALT

You can use the Distribution Calculators page in SALT to find critical values and/or p-values to answer parts of this question.

(a) Perform a statistical procedure to compare the means of the three groups using the critical-value method. (Use $\alpha = 0.05.$)

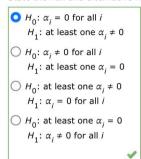
State the null and alternative hypotheses.

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State the null and alternative hypotheses.



Find the test statistic. (Round your answer to two decimal places,

11.65

Find the critical value. (Round your answer to two decimal places.)

3.39

State your conclusion.

- \bigcirc Fail to reject H_0 . There is insufficient evidence to conclude that the means of these three groups are not all the same.
- Fail to reject H₀. There is sufficient evidence to conclude that the means of these three groups are not all the same.
- Reject H₀. There is insufficient evidence to conclude that the means of these three groups are not all the same.
- Reject H₀. There is sufficient evidence to conclude that the means of these three groups are not all the same.
- (b) Use technology to find the p-value from the test performed in part (a). (Round your answer to four decimal places.) p-value = 0.0003
- (c) Compare the means of each specific pair of groups using the LSD methodology. (Round your test statistics to two decimal places and your p-values to four decimal places. Use $\alpha = 0.05$.)

Comparison Groups	test statistic	<i>p</i> -value	Significant Difference?
STD, LAC	3.48	0.0019	Yes ❖ ✔
STD, VEG	4.59	0.0001	Yes ≎ ✔
LAC, VEG	1.31	0.2018	No ≎ ✔