

### UTAustinX: UT.7.20x Foundations of Data Analysis - Part 2



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# Question 2

Forty-five (45) dog lovers are recruited for a study examining the calming effects of pets during stressful situations.

Fifteen (15) subjects were randomly assigned to each of three different groups:

- performing the task alone (control),
- performing the task with a good friend present, and
- performing the task with their dog present.

The peak heart rate (in beats per minute) during the task was measured for each subject, with the following results:

4/21/2016

Testing (One Group Means)

- Week 3: Hypothesis Testing (Two Group Means)
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- Week 5: Hypothesis Testing (More Than Two Group Means)

# Readings

Reading Check due May 03, 2016 at 17:00 UTC

#### **Lecture Videos**

Comprehension Check due May 03, 2016 at 17:00 UTC

## R Tutorial Videos

#### Pre-Lab

Pre-Lab due May 03, 2016 at 17:00 UTC

Lab

	Alone	Good Friend	Pet Dog
Mean	82.52	91.32	73.48
SD	9.24	8.34	9.97

(1/1 point)

2a. What is the appropriate null hypothesis for this test?

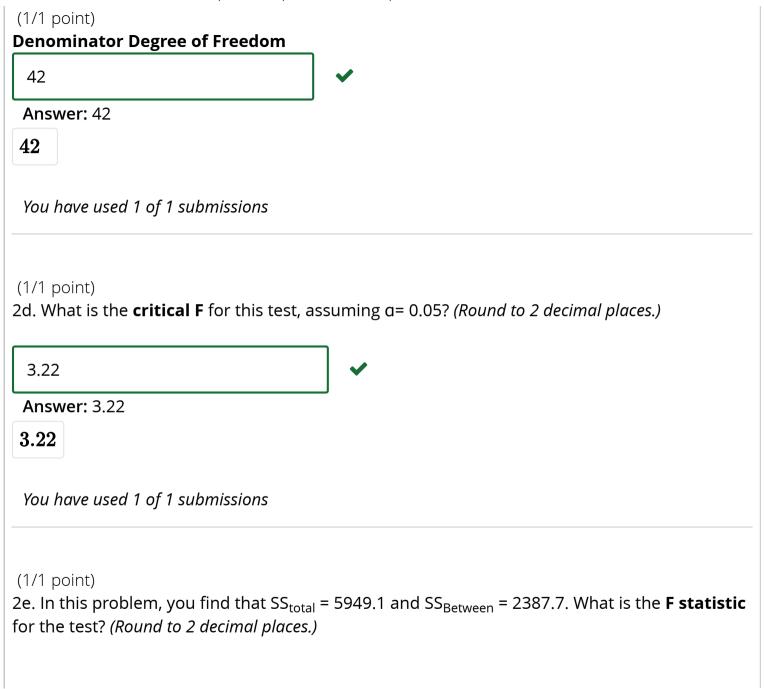
- $H_0: \mu_1 = \mu_2 = \mu_3$
- $\quad \quad \ \ \, 0 : \mu_1 \neq \mu_2 \neq \mu_3$
- $\qquad \qquad H_0: \mu_1 \neq \mu_2 = \mu_3$

You have used 1 of 1 submissions

(1/1 point)

2b. To run a reliable ANOVA, what must be true of this data?

Lab due May 03, 2016 at 17:00 UTC	The heart rate data should be normally distributed in each group.	
Problem Set Problem Set due May 03, 2016 at 17:00 UTC	Each group should have approximately equal standard deviations.	
	Each group has independent, random data.	
	● All of the above. ✔	
	You have used 1 of 1 submissions	
	(1/1 point)  2c. What are the <b>degrees of freedom</b> for this test?	
	Numerator Degree of Freedom 2	
	Answer: 2	
	You have used 1 of 1 submissions	



14.08	•
<b>Answer:</b> 14.08	
14.08	
You have used 1 of 1 submissions	
(1/1 point) <b>2f. What is the outcome of this test?</b>	
Fail to reject the null hypothesis	
Reject the null hypothesis	
You have used 1 of 1 submissions	

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