

Quiz Submissions - Homework6.7week V2



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Attempt 1

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Submission View

Your quiz has been submitted successfully.

Module 4: Lesson 4

Question 1

0.5 / 2 points

Nursing faculty at a local college were interested in seeing if the mean starting salaries for newly graduated registered nurses (RN) in Baltimore is less than the mean starting salaries in Philadelphia. One hundred randomly selected new Baltimore RN's showed a mean salary of \$61,500 with a standard deviation of \$9,550. One hundred randomly selected new Philadelphia RN's had a mean salary of \$65,275 with a standard deviation of \$10,500. Does this evidence show lower mean salary in Baltimore? (Let $\alpha = 0.05$)

Which are the correct hypothesis statements for this situation?

 Choices of Hypothesis Statements

~~_____~~

t-stat (round to 2 decimal places) =

~~_____~~

p-value (do not round) =

~~_____~~

What is your decision (Retain H_0 or Reject H_0)?

~~Reject H_0~~

Question 2

0 / 1 point

Write a summary statement for the hypothesis test above. Be sure to use the context of the problem.

The reject H_0 , the data provide sufficient evidence to conclude that the mean is higher in phi

This question has not been graded.



Question 3

0 / 0.25 points

A CCBC professor claims that there is a difference between the mean class score of statistics day students on Test 3 and statistics evening students on the Test 3. The professor takes random samples from each group of students. The summary is shown in the table below.

	n	\bar{x}	s
Day	49	76	13
Evening	36	80	10

What are the correct hypothesis statements for this situation?

$H_o : \mu_D \neq \mu_E$

$H_A : \mu_D = \mu_E$

$H_o : \mu_D = \mu_E$

$H_A : \mu_D < \mu_E$

$H_o : \mu_D = \mu_E$

$H_A : \mu_D \neq \mu_E$

$H_o : p_D = p_E$

$H_A : p_D < p_E$

Question 4

1 / 1.5 points

A CCBC professor claims that there is a difference between the mean class score of statistics day students on Test 3 and statistics evening students on the Test 3. The professor takes random samples from each group of students. The summary is shown in the table below.

	n	\bar{x}	s
Day	49	76	13
Evening	36	80	10

Use a 0.05 significance level to test the professor's claim.

t-stat (round to 2 decimal places) =

1.60

p-value (do not round) =

0.134

What is your decision (Retain H_0 or Reject H_0)?

Retain H_0

Question 5

0 / 1 point

Write a summary statement for the hypothesis test above. Be sure to use the context of the problem.

we Fail to reject null hypothesis (H_0)

conclusion :- there is not enough evidence to support the claim that the mean are equal

This question has not been graded.

Question 6

0.25 / 0.25 points

Which of the following is NOT an assumption or condition for a hypothesis test for two means?

- Success/Failure Condition
- Independence Assumption
- Randomization Assumption
- Is n big enough?

Question 7

0.25 / 0.25 points

When using a chi-square test of independence what percent of the cells in the contingency table must have expected frequencies greater than 5 ?

- at least 50%
- at least 60%
- at least 70%
- at least 80%

Question 8

0.5 / 2 points

In October 2021, Pew Research surveyed 9,676 Americans and how they see the availability of affordable housing in their local community. Here are the results below.

	A major problem	A minor problem	Not a problem	Total
Men	2,082	1,893	757	4,732
Women	2,571	1,681	692	4,944
Total	4,653	3574	1,449	9,676

Use a 0.05 significance level to determine if the respondent's sex is independent of their opinion. Click here to open the contingency table in **StatCrunch**.

H_0 : Sex and housing opinion are

2

H_A : Sex and housing opinion are

692, 7

P-value (type it exactly as it appears) =

0.000

What is your decision (*Retain H_0 and Reject H_0*)?

Reject H_0

Question 9

0 / 1 point

Write a summary statement for the hypothesis test above. *Be sure to use the context of the problem.*

Reject H_0 , is enough evidence to conclude the claim that the two reliable deferent at 0.05.

This question has not been graded.

Question 10

0.25 / 0.25 points

Which of the following is NOT a requirement to satisfy the conditions for ANOVA?

- All samples are dependent of one another.
- The population are normally distributed.
- Each group represents a simple random sample from its respective population.
- The population have the same variance.

Question 11

0 / 0.25 points

Are all batteries created equal? An experiment was carried out to determine this. Two brand name battery companies and a generic company were compared. D-batteries were put into flashlights and continuously left on. The data provided is the number hours the flashlight remained lit. Is this sufficient evidence to determine if the mean times for the different companies are different? Use a 0.05 significance level.

What are the hypothesis statements for this situation?

- H_o : Battery type and time are independent
 H_A : Battery type and time are dependent
- H_o : $p_1 = p_2 = p_G$
 H_A : at least one proportion is different
- H_o : $\mu_1 = \mu_2 = \mu_G$
 H_A : at least one mean is different

Question 12

0.5 / 1 point

Are all batteries created equal? An experiment was carried out to determine this. Two brand name battery companies and a generic company were compared. D-batteries were put into flashlights and continuously left on. The data provided is the number hours the flashlight remained lit. Is this sufficient evidence to determine if the mean times for the different companies are different? Use a 0.05 significance level. Click here to open this data in **StatCrunch**.

p-value (do not round) =

 _____

What is your decision (Retain H_o and Reject H_o)?

Retain H_0

Question 13**0 / 0.25 points**

Which summary statement best reflects the findings of the hypothesis test above.

- The sample data suggests that the mean lifetime of the batteries for the the 3 types are not different.
- The sample data suggests that the mean lifetime of the batteries for the the 3 types are different.
- The sample data suggests that the proportion of batteries is the same for all three types.
- The sample data suggests that battery life and battery type are dependent.

Question 14**0 / 1 point**

Is the average time we shower the same? Two hundred and fifty randomly selected citizens from Brazil, United States and Germany were asked to report the length of time (minutes) they spend in the shower. Use a 0.10 significance level and the **StatCrunch** output to determine if the mean time for a shower is the same for these three countries.

 ANOVA

In the space provided below state your decision: **Reject H_0** or **Retain H_0**

Also, write a **summary statement** for the hypothesis test. *Be sure to use the context of the problem.*

Hypotheses:

Null hypothesis: The mean time for a shower is the same for U.S., German, and Brazil citizens.

Alternative hypothesis: The mean time for a shower is not the same for U.S., German, and Brazil citizens.

Test statistic and P-value:

From the ANOVA table, the F-stat is 8.204 (approx.) and the corresponding p-value is 0.0003.

Decision rule:

If p-value is less than or equal to α , the null hypothesis is rejected.

If p-value is greater than α , the null hypothesis is not rejected.

Conclusion:

Here, $\alpha = 0.10$. As p-value (=0.0003) is less than 0.10, the null hypothesis is rejected. Thus, there is no sufficient evidence to conclude that the mean time for a shower is the same for U.S., German, and Brazil citizens.

This question has not been graded.

Attempt Score:3.25 / 12 - 27.08 %

Overall Grade (highest attempt):3.25 / 12 - 27.08 %

Done

