

Take Test: HW #6

Test Information

Description

Instructions THE OUTPUT BELOW IS FOR THE PROBLEM 1 TO 4) It is known that the mean percent body fat for males aged 65 and older is greater than 20. To determine if it is true, sample of size 21 was collected and the sample mean was 22.0524 and the standard deviation was 4.2716. The significance level is $\alpha=0.05$.

One-Sample Statistics				
	N	Mean	Std. Deviation	Std. Error Mean
body_fat	21	22.0524	4.27161	*****

One-Sample Test						
Test Value = 20						
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
body_fat	2.202	20	.040	2.05238	.1080	3.9968

Multiple Attempts

This test allows multiple attempts.

Force Completion

This test can be saved and resumed later.

Question Completion Status:

Save All Answers

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Save and Submit

QUESTION 1

2 points

Save Answer

Choose the correct null hypothesis of the test.

- ☐ a. the population mean = 20
The population mean = 20
- ☐ b. the population mean $\neq$ 20
- ☐ c. the population mean $>$ 20
- ☐ d. the population mean $<$ 20

QUESTION 2

2 points

Save Answer

Choose the correct alternative hypothesis of the test.

- ☐ a. the population mean = 20
- ☐ b. the population mean $\neq$ 20
- ☐ c. the population mean $>$ 20
- ☐ d. the population mean $<$ 20

QUESTION 3

2 points

Save Answer

Determine the p-value of the test. (three decimal, please)

QUESTION 4

2 points

Save Answer

Choose the correct interpretation based on the p-value in problem 4.

- ☐ a. There is no statistical significant evidence that the mean percent body fat for males aged 65 and older is greater than 20.
- ☐ b. There is no statistical significant evidence that the mean percent body fat for males aged 65 and older is not greater than 20.
- ☐ c. There is a statistical significant evidence that the mean percent body fat for males aged 65 and older is greater than 20.
- ☐ d. There is a statistical significant evidence that the mean percent body fat for males aged 65 and older is not greater than 20.

QUESTION 5

1 points

Save Answer

One wants to test whether the mean annual income of workers who have studied statistics is greater than \$50,000. Then the hypotheses are:

Null hypothesis: $\mu = 50,000$

Alternative hypothesis: $\mu > 50,000$

- ☐ True
- ☐ False

QUESTION 6**1 points****Save Answer**

It's known that the percentage of viewers tuned to 60 Minutes is equal to 24%. To test if it's true, we let the null hypothesis: $p = .24$ vs. alternative hypothesis: $p \neq .24$

- ☐ True
☐ False

QUESTION 7**1 points****Save Answer**

One setup the hypothesis testing as follow:

$$H_0: p = .50 \text{ vs. } H_1: p > .50$$

And the p-value from SPSS was 0.002. Then with the level of significance at 0.05, one reject the null hypothesis.

- ☐ True
☐ False

QUESTION 8**1 points****Save Answer**

See the SPSS output on page 361 in the textbook. Read Problem 13 and choose **True** if you think the vitamin supplement appears to have an effect on birth weight; **False** if not. Let $\alpha = 0.05$.

- ☐ True
☐ False

QUESTION 9**2 points****Save Answer**

Solve Exercise 3 on page 345 in the textbook running SPSS and choose the right conclusion. $\alpha = 0.01$.

- ☐ a. Reject H_0 because $p\text{-value} > \alpha$.
☐ b. Reject H_0 because $p\text{-value} < \alpha$.
☐ c. Do not reject H_0 because $p\text{-value} > \alpha$.
☐ d. Do not reject H_0 because $p\text{-value} < \alpha$.

QUESTION 10**2 points****Save Answer**

Solve Exercise 11 on page 346 in the textbook running SPSS and choose the right conclusion. $\alpha = 0.05$.

- ☐ a. Reject H_0 because $p\text{-value} > \alpha$.
☐ b. Reject H_0 because $p\text{-value} < \alpha$.

- c. ☐ Do not reject H_0 because p-value > alpha.
- d. ☐ Do not reject H_0 because p-value < alpha.

QUESTION 11

2 points

Save Answer

Solve Exercise 18 on page 362 in the textbook running SPSS and choose the right conclusion. Alpha=0.05.

- a. ☐ Reject H_0 because p-value > alpha.
- b. ☐ Reject H_0 because p-value < alpha.
- c. ☐ Do not reject H_0 because p-value > alpha.
- d. ☐ Do not reject H_0 because p-value < alpha.

QUESTION 12

2 points

Save Answer

Solve Exercise 19 on page 362 in the textbook running SPSS and choose the right conclusion. Alpha=0.10.

- a. ☐ Reject H_0 because p-value > alpha.
- b. ☐ Reject H_0 because p-value < alpha.
- c. ☐ Do not reject H_0 because p-value > alpha.
- d. ☐ Do not reject H_0 because p-value < alpha.

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