

Online Homework Package Created by : Elsit and Satya Mandal		
Course Id :Math 105	Topics in Mathematics	Semester : Summer2017
Instructor :Satya Mandal Line No : 84895		
Homework No: 26	Total Points :50	Due Date:(YYYY-MM-DD) 2017-07-27

Question-1	<p>It is believed that the mean μ starting salary for the new KU graduates has increased from last year's mean of \$51 K annually. It is known that the standard deviation of the starting salary is $\sigma = 5$ K. To test what you believe, you collect a sample of 15 new graduates and find that the sample mean salary is $\bar{x} = 54$ K.</p> <p>In this question and the next two, we will do a significance test to determine whether the mean starting salary has increased. Here</p> $H_0 : \mu = 51$ $H_A : \mu > 51.$ <p>For this question compute the z-value for your collected data.</p>
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Answer Question-1	<div style="border: 1px solid black; padding: 2px;"> <p style="text-align: center; margin: 0;">This is a Numerical-Answer Type Question</p> <p style="margin: 0;">Statistic Value = <input style="width: 100px;" type="text"/></p> </div>
Points	5.00

Question-2	Refer to Question 1. Decide if it is a Tow Tail, Left Tail or Right Tail Test and compute the p-value.
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Answer Question-2	<div style="border: 1px solid black; padding: 2px;"> <p style="text-align: center; margin: 0;">This is a Numerical-Answer Type Question</p> <p style="margin: 0;">p-Value = <input style="width: 100px;" type="text"/></p> </div>
Points	5.00

Question-3	Refer to Question 1. What would be the lowest level of significance, percent among .1, .5, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 percent, at which you would accept that the mean starting salary of KU graduates has increased?
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Answer Question-3	<div style="border: 1px solid black; padding: 2px;"> <p style="text-align: center; margin: 0;">This is a Numerical-Answer Type Question</p> <p style="margin: 0;">Lowest Percent = <input style="width: 100px;" type="text"/></p> </div>
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Points	5.00
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Question-4	<p>The mean weight μ of babies at birth in the United States is believed to be higher than the mean birth weight of 112 ounces, throughout the world. The standard deviation of the birth weight in US is known to be 17 ounces. Data on 96 babies in the US was collected and the mean weight was found to be 115 ounces.</p> <p>In this question and the next two, we will do a significance test to determine whether the mean birth weight in the US is higher than the mean birth weight for the world as a whole. Here we test</p> $H_0 : \mu = 112$ $H_A : \mu > 112.$ <p>For this question compute the z-value for your collected data.</p>
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Answer Question-4	This is a Numerical-Answer Type Question
	Statistic Value = <input style="width: 100px;" type="text"/>
Points	5.00

Question-5	Refer to Question 4. Decide if it is a Two Tail, Left Tail or Right Tail Test and compute the p-Value.
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Answer Question-5	This is a Numerical-Answer Type Question
	p-Value = <input style="width: 100px;" type="text"/>
Points	5.00

Question-6	Refer to Question 4. What would be the lowest level of significance, percent among .1, .5, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 percent, at which you would accept that the mean birth weight of US babies is higher?
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Answer Question-6	This is a Numerical-Answer Type Question
	Lowest percent = <input style="width: 100px;" type="text"/>
Points	5.00

Question-7	<p>The time taken by an athlete to run an event has a distribution with mean μ seconds and known standard deviation $\sigma = 3$ seconds. The coach believes that the mean time μ of the athlete has improved from last year's mean of 25 seconds. To test the belief of the coach, the athlete ran the event 29 times and the sample mean run time was found to be 23.9 seconds.</p>
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In this question and the next two, we will do a significance test to determine if the athlete has improved. Here we test

$$H_0 : \mu = 25$$

$$H_A : \mu < 25.$$

For this question compute the z-value for your collected data on the the athlete.

Answer Question-7	This is a Numerical-Answer Type Question Statistic Value = <input type="text"/>
Points	5.00

Question-8 Refer to Question 7. Decide if it is a Two Tail, Left Tail or Right Tail Test and compute the p-value of the collected data in Question 7.

Answer Question-8	This is a Numerical-Answer Type Question p-Value = <input type="text"/>
Points	5.00

Question-9 Refer to Question 7. What would be the lowest level of significance, percent among .1, .5, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 percent, at which you would accept that his/her mean time has improved?

Answer Question-9	This is a Numerical-Answer Type Question Lowest Percent = <input type="text"/>
Points	5.00

Question-10 Refer to Question 7. At 5 percent level of significance, would accept that his/her mean time has improved? Write 0 if the answer is NO and 1 if answer in YES.

Answer Question-10	This is a Numerical-Answer Type Question Yes or No <input type="text"/>
Points	5.00

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