X

Unit 7 - Week 4

Assignment 4

The due date for submitting this assignment has passed. Due on 2020-02-26, 23:59 IST.
As per our records you have not submitted this assignment.

1) The z-statistics can be applied when we know: ***1 point***

- the population mean
- the population standard deviation
- the sample standard deviation
- the sample mean
- Both sample mean and sample standard deviation

No, the answer is incorrect.
Score: 0
Accepted Answers:
the population standard deviation

2) The relationship between z- and t-statistics is: ***1 point***

- At infinite readings, z-statistics converge to t-statistics.
- At 200 readings, the z-statistics converge to t-statistics
- T-statistics converge to z-statistics for an infinite number of measurements
- Z-statistics is not related to t-statistics at all
- T-statistics and z-statistics are the same.

No, the answer is incorrect.
Score: 0
Accepted Answers:
T-statistics converge to z-statistics for an infinite number of measurements

3) The critical value of z at 95% confidence level is: ***1 point***

- ± 1.960 for a one tailed test

- ☐ ± 1.960 for a two tailed test
- ☐ ± 1.645 for a one tailed test
- ☐ ± 1.645 for a two tailed test
- ☐ ± 3.29 for a two tailed test

No, the answer is incorrect.
Score: 0
Accepted Answers:
± 1.960 for a two tailed test
± 1.645 for a one tailed test

4) The null hypothesis is to be rejected if: ***1 point***

- ☐ $Z_{calculated} < Z_{critical}$
- ☐ $Z_{calculated} > Z_{critical}$
- ☐ $t_{calculated} < t_{critical}$
- ☐ $t_{calculated} > t_{critical}$
- ☐ $(t_{calculated})^2 > (t_{critical})^2$

No, the answer is incorrect.
Score: 0
Accepted Answers:
$Z_{calculated} > Z_{critical}$
$t_{calculated} > t_{critical}$

5) For a population of bacterial cells, it was observed that 0.5% of them died in 48 hours while 2.5% of the cells were dead after 54 hours. The average life of this population of cells will be: ***1 point***

- ○ 54 hours
- ○ 50 hours
- ○ 74 hours
- ○ 88 hours
- ○ 78 hours

No, the answer is incorrect.
Score: 0
Accepted Answers:
74 hours

6) Suppose the weight of 35 students of X standard is recorded and the mean weight of this population was 44 kg and the standard deviation was 6 kg. The 95% confidence interval for this population will be: ***1 point***

- ○ 40-48 kg
- ○ 38-48 kg
- ○ 42-49 kg
- ○ 41-47 kg
- ○ 42-46 kg

No, the answer is incorrect.
Score: 0
Accepted Answers:

42-46 kg

7) The pooled value of standard deviation (s_{pooled}) of the following three samples is: ***1 point***

Sample 1	Sample 2	Sample 3
1001	822	750
1022	805	745
975	788	799
991	779	800
992	800	758

- 15.87
- 18.57
- 17.85
- 19.89
- 20.77

No, the answer is incorrect.
Score: 0

Accepted Answers:
20.77

8) Two different analytical methods were employed on each sample collected from different cities to estimate the amount of zinc in water (mg/l). This gave following readings: ***1 point***

Sample No.	Method 1	Method 2
1	0.35	0.3
2	0.94	1.25
3	2.76	2.56
4	3.53	3.98
5	4.99	5.35
6	7.77	8.8
7	10.81	10.68
8	10.92	10.91

The confidence level at which the two methods differ is/are:

- 95%
- 99%
- 90%
- Differs at all the above confidence levels
- No difference at any of the above confidence levels

No, the answer is incorrect.
Score: 0

Accepted Answers:
No difference at any of the above confidence levels

9) The average weight 10 year old boys in a city is 31.7 kg. If a sample of 15 boys (who are 10 year old) from a locality had average weight of 31.0 kg and standard deviation of 1.1 kg, then the weight of the sample differs from that of population at confidence level(s) of: ***1 point***

- 90%
- 95%
- 99%
- 99.9%
- all the above
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
90%
95%

10) The mean value of a sample was found to be 159 and population standard deviation of that measurement 15. The minimum size of the sample needed to reduce its 95% confidence interval to below 10 is ***1 point***

- 5
- 7
- 10
- 9
- 11

No, the answer is incorrect.
Score: 0

Accepted Answers:
9