ARIZONA STATISTICS · UNIT 3 · 25 QUESTIONS

Statistical Inference — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **A number describing a whole population is called a**

- A Estimate
- B Sample
- C Statistic
- D Parameter

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2 **A number computed from a sample is called a**



A Parameter

B Statistic

C Census

D Population

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3 **The standard deviation of a sampling distribution is called the**

A Standard error

B Standard deviation of the data

C Confidence level

D Margin of error

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4 **A population standard deviation is 12 and sample size is 36. What is the standard error of the mean?**



ANSWER

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5 **A population standard deviation is 15 and sample size is 25. What is the standard error of the mean?**

ANSWER

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6 **The central limit theorem says that for large samples, the sampling distribution of the sample mean is approximately**

- A Normal
- B Uniform
- C Skewed
- D Bimodal

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7 **A sample mean is 50 with a standard error of 2. An approximate 95% confidence interval is**

- A 44 to 56
- B 48 to 52
- C 50 to 54
- D 46 to 54

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8 **A sample mean is 80 with a margin of error of 6. The confidence interval is**

- A 74 to 80
- B 68 to 92
- C 74 to 86
- D 80 to 86

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9 **A 95% confidence interval means that in repeated sampling, about 95% of intervals built this way would contain the true parameter. This is**

- A The probability the parameter is in this interval
- B The significance level
- C The correct interpretation
- D The probability the sample is correct

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10 **Increasing the sample size will usually make a confidence interval**



A Unchanged

B Invalid

C Narrower

D Wider

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11 **The null hypothesis usually states that there is**

A A large effect

B A proven effect

C A biased sample

D No effect or no difference

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12 **The p value is the probability of data at least as extreme as observed assuming which hypothesis is true?**



A The sample hypothesis

B The null hypothesis

C The population hypothesis

D The alternative hypothesis

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13 **A small p value gives evidence against the**

A Null hypothesis

B Sample

C Alternative hypothesis

D Data

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14 **Rejecting a true null hypothesis is called a**

A Type I error

B Correct decision

C Type II error

D Confidence error

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15 **Failing to reject a false null hypothesis is called a**

A Type II error

B Sampling error

C Type I error

D Correct decision

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16 **At a significance level of 0.05, a p value of 0.02 means you should**

A Accept the null hypothesis

B Reject the null hypothesis

C Fail to reject the null hypothesis

D Collect no data

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17 **At a significance level of 0.05, a p value of 0.30 means you should**

A Reject the null hypothesis

B Fail to reject the null hypothesis

C Prove the null

D Accept the alternative

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18 **A sample mean is 54, the null mean is 50, and the standard error is 2. What is the test statistic z?**

ANSWER _____

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19 **An observed mean is 66, the null mean is 60, and the standard error is 3. What is the test statistic z?**

ANSWER _____

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20 **In a sample of 200, 120 support a proposal. What is the sample proportion?**



ANSWER

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21 **In a sample of 150, 45 have a trait. What is the sample proportion?**

ANSWER

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22 **For a small sample from a normal population with unknown standard deviation the usual test uses the**

A Chi square distribution

B Uniform distribution

C z distribution

D t distribution

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23 **A one sided test is used when the alternative hypothesis points in**

A Both directions

B One direction

C No direction

D Two directions

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24 **A larger confidence level, such as 99% instead of 95%, usually gives a**

A Wider interval

B Shorter interval

C Narrower interval

D Invalid interval

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25 **The margin of error for a mean is larger when the sample size is**

A Smaller

B Larger

C Unchanged

D Zero

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	D	**10.**	C	**19.**	2
2.	B	**11.**	D	**20.**	0.6
3.	A	**12.**	B	**21.**	0.3
4.	2	**13.**	A	**22.**	D
5.	3	**14.**	A	**23.**	B
6.	A	**15.**	A	**24.**	A
7.	D	**16.**	B	**25.**	A
8.	C	**17.**	B		
9.	C	**18.**	2		

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