Stat 235

Lab 4

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Lab EL12

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1

1.a

Keeping other parameters constant, changing the confidence level yields the folowing:

Confidence Level	Margin of Error
0.90	0.300308
0.95	0.357839
0.99	0.470280

Table 1: My caption

How does the margin of error change as the confidence interval increases? Explain briefly. As seen in Table 1 above, the Margin of Error increases as the Confidence Level is increased. This makes sense because.....

1.b

Confidence Level	Observed Fraction of Intervals That Failed to Cover the Hypothesized Population Mean
0.90	0.11
0.95	0.06
0.99	0.02

Table 2: My caption

Are the observed counts consistent with the values predicted by the theory? Explain briefly. looks like you got some learnin to do....

2

$$H_0 : \mu = 64 \quad vs. \quad H_A : \mu \neq 64$$

2.a

Level of Significance	Number of Samples That Led to the Rejection of H_0	Observed Fraction of Samples
0.10	XXXX	XXXX
0.05	XXXX	XXXX
0.01	XXXX	XXXX

Table 3: My caption

How does the number of samples change as the level of significance increases? Explain briefly.

2.b

Write your null hypothesis. (SHould have a solid understanding of p-values for this)

Compare the outcome of the test at the 5% level of significance with the 95% confidence intervals that failed to cover the mean of 64 for each sample. Repeat the exercise with the 1% level of significance and the 99% confidence intervals. What do you conclude about the relationship between confidence intervals and two-sided tests?

3

3.a

3.b

4

4.a

4.b

5

5.a

5.b

6

6.a

6.b

6.c

6.d