

East Los Angeles College
Department of Mathematics

Math 227

Test 4

Show all work for credit

The lifespan of a 60-watt lightbulb is normally distributed with a mean of 1000 hours and a standard deviation of 120 hours. What lifespan represents?

1. The top 5%? **Tenths**
2. The bottom 10%? **Tenths**
3. The 3rd Quartile? **Tenths**

A sample of 150 students reveal that 12% leave class early.

4. Use the 99% confidence level to determine the **margin of error** associated with the true proportion that leave early. **Hundredths**
5. Estimate the true proportion that leave early using the 99% confidence level. **Tenths**

A sample of 500 college students report taking a mean of 3.2 years and a standard deviation of 1.1 years to complete a Bachelor's Degree after transferring from a Community College.

6. Use the 95% confidence level to determine the **margin of error** associated with estimating the true mean years to complete a Bachelor's Degree. **Tenths**
7. Estimate the true mean using the 95% confidence level. **Hundredths**

A sample of 20 college students report a mean of 5.8 absences from lecture per academic year with a standard deviation of 2.5 absences.

8. Use the 90% confidence level to determine the **margin of error** associated with estimating the true mean. **Hundredths**
9. Use the 90% confidence level to estimate the true mean. **Tenths**
10. Use the 90% confidence level to estimate the true variance. **Tenths**
11. Use the 90% confidence level to estimate the true standard deviation. **Tenths**

Professor Snodgrass claims that the proportion of students who are late to lecture is 20%. A sample of 1000 college students report that 24% show up late for lecture.

12. What is the claim?
13. What is your critical value(s) using the 1% level of significance? **Hundredths**
14. What is your test statistic? **Hundredths**
15. What is your decision?

An online researcher claims that college students spend a mean of at least 6 hours per day on the internet. A sample of 250 college students report a mean of 4.8 hours with a standard deviation of 2.6 hours.

16. What is the claim?
17. What are your critical value(s) using the 10% level of significance? **Hundredths**
18. What is your test statistic? **Hundredths**
19. What is your decision?

Campers Digest claims that Honda generators last for a mean that's more than 12 hours of electricity on a single gallon of gasoline. A sample of 18 Honda generators last for 14.5 hours with a standard deviation of 3.1 hours.

20. What is the claim?
21. What are your critical value(s) using the 10% level of significance? **Hundredths**
22. What is your test statistic? **Hundredths**
23. What is your decision?
24. What is your name?

Answer Sheet

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