The following data represents the math lab time (hours) that students spent the week before a final exam.

6, 6, 8, 6, 4, 4

1. Determine the mean. **Tenths**
2. Determine the variance. **Tenths**
3. Determine the standard deviation. **Tenths**
4. Use the 95% confidence level to estimate the margin of error associated with estimating the true mean. **Hundredths**
5. Use the 95% confidence interval to estimate the true mean study time. **Tenths**
6. Use the 95% confidence level to estimate the true variance. **Tenths**
7. Use the 95% confidence level to estimate the true standard deviation. **Tenths**

8. A $ 25,000 life insurance policy for a 28-year old male costs $ 1,400 per year. If the probability of a 28-year old male living to see 29 years of age is 0.92, compute the expected value for the insurance policy. **Hundredths**

The lifespan of a laptop is normally distributed with a mean of 8.5 years and a standard deviation of 1.4 years. What percent of laptops last:

9. At least 6 years? **Hundredths**
10. Less than 10 years? **Hundredths**
11. Between 6 and 10 years? **Hundredths**
12. More than 4 years? **Hundredths**
13. What lifespan represents the top 5%? **Tenths**

When reviewing health records, a sample of size 150 indicates that 62% of Americans over the age of 45 suffer from type II diabetes. Use the 99% confidence level to:

14. Estimate the margin of error. **Thousandths**
15. To estimate the true proportion. **Thousandths**

US Senators- The following table displays 100 senators of the 112th US congress viewed by political party affiliation and gender.

	Male	Female	Total
Democrat	34	12	46
Republican	42	8	50
Independent	1	3	4
Total	77	23	100

If a person is selected at random, what's the probability the person:

16. is a democrat? **Thousandths**
17. is a republican? **Thousandths**
18. is a non-democrat? **Thousandths**
19. democrat or a republican? **Thousandths**
20. Is a democrat given that the person is a male? **Thousandths**
21. is a democrat given that the person is a female? **Thousandths**
22. If you select two different senators at random, what's the probability both are female democrats? **Thousandths**

The mean age of people who acquire a driver's license is 26 years, as claimed by the DMV. A sample of 85 applicants report a mean age of 20.2 years with a standard deviation of 2.2 years. Use the 5% level of significance to answer the following questions.

23. What is claim?
24. What are the critical value(s)? **Hundredths**
25. What is the test statistic? **Hundredths**
26. What is your decision by testing this hypothesis?

The proportion of students who graduate from college in 4-years is 42%, as claimed as by the US Department of Education. A sample of 200 college students indicate that 88 graduated in 4 years. Use the 10% level of significance to answer the following questions:

27. What is the claim?
28. What are the critical, value(s)? **Hundredths**
29. What is the test statistic? **Hundredths**
30. What is your decision by testing this hypothesis?

The mean amount of money college students spend on coffee during final's week is at least $ 35.00 as claimed by Professor Snodgrass. A sample of 18 college students report spending a mean of $ 32.50 with a standard deviation of $ 2.75. Use the 1% level of significance to answer the following questions:

31. What is the claim?
32. What are the critical value(s)? **Hundredths**
33. What is the test statistic? **Hundredths**
34. What is your decision by testing this hypothesis?

A researcher finds that of 1200 people who said they attend a religious service at least once a week, 78 stopped to help a person with car trouble. Of 1,400 people interviewed who did not attend a religious service at least once per month, 45 stopped to help a person with car trouble. The researcher says the proportions are equal. Use the 1% level of significance to answer the following questions:

35. What is the claim?
36. What are the critical values? **Hundredths**
37. What is the test statistics? **Hundredths**
38. What is your conclusion.

The mean blood sugar level for patients on the sawdust diet is lower than the mean blood sugar level for patients using exercise as a means to control blood sugar. The following samples are from the independent groups.

Sawdust: sample size is 120, sample mean is 125, sample standard deviation is 18.

Exercise: sample size is 145. Sample mean is 135, sample standard deviation is 24.

Use the 10% level of significance to answer the following questions.
39. What is the claim?
40. What are the critical values? **Hundredths**
41. What is the test statistic? **Hundredths**
42. What is your conclusion?

43. What is your name?

Answer Sheet

1		22	
2		23	
3		24	
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