QUIZ 7

For a normal population with mean μ and standard deviation σ we expect

Between	Percentage of Data
$\mu - \sigma$ and $\mu + \sigma$	68.26%
$\mu - 2\sigma$ and $\mu + 2\sigma$	95.44%
$\mu - 3\sigma$ and $\mu + 3\sigma$	99.74%

1. Cans of motorcycle oil are supposed to contain 16 ounces of oil (on the average). To test this, 36 cans were obtained, and the results showed a mean of 15.5 ounces and a standard deviation of 1 ounce. You want to conclude that the real average for the amount of ounces of oil is not 16 as expected.

   (a) State your null hypothesis H_0.

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   (b) State your alternate hypothesis H_a.

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   (c) Would you use a z-test or a t-test? Explain.

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   (d) Compute the value of the test statistic you decided to compute.

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   (e) Find the P-value

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   (f) What conclusion is reached at the 10% level of significance? At the 1% level of significance?

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