Lab Report: Hypothesis Testing – Single Population Mean

Name(s):

Key Terms
Provide the definitions for the following terms:

- hypothesis testing:
- hypothesis:
- null hypothesis:
- alternative hypothesis:
- Type I error:
- Type II error:
- rare event rule:
- p-value:

Data

What random sampling method did you use and why did you use such a method?

Record the sample data:

Hypotheses

- State the claim that you are testing.
  
- State the null and alternative hypotheses.
  
- Is this a right-tailed, left-tailed, or two-tailed test?
  
- Define the random variable for this test.
**Hypothesis Test—Known σ**

**Hypothesis Test—Unknown σ**

**Interpretation**

Decisions on Null Hypothesis

<table>
<thead>
<tr>
<th>σ</th>
<th>α</th>
<th>p-value</th>
<th>decision (reject or do not reject $H_0$)</th>
<th>reason for decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Known</td>
<td>0.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>0.05</td>
<td></td>
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</tbody>
</table>

**Conclusions**

<table>
<thead>
<tr>
<th>σ</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Known</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
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</table>

**Discussion**

1.  
2.  
3.  

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