| Online Homework Package Created by : Elsit and Satya Mandal | | |
|--|------------------|-------------------------------------|
| Course Id :Math 105 Topics in Mathematics | | Semester : Summer2017 |
| Instructor :Satya Mandal Line No : 84895 | | |
| Homework No: 21 | Total Points :45 | Due Date:(YYYY-MM-DD) 2017-07-27 |

| Question- | A stock broker knows that the end-of-year balance X (percent of the January 1 balance) in the | |
|------------------|---|--|
| 1 | client's account has a distribution with mean μ percent and standard deviation $\sigma = 10$. The broker | |
| | collected a sample of 49 clients and the sample mean \underline{x} was found to be 100 percent. | |
| | In this question and the next two, we compute a 99 percent confidence interval for the mean balance | |
| | μ. Find the margin of error at a 99 percent confidence level. | |

| Answer | This is a Numerical-Answer Type Question |
|------------|--|
| Question-1 | MOE = |
| Points | 5.00 |

| Question- | Using the information from Question 1, find the left end point of the confidence interval of the |
|-----------|--|
| 2 | mean balance μ. |

| Answer Question-2 | This is a Numerical-Answer Type Question | |
|----------------------|--|--|
| | LEP = | |
| Points | 5.00 | |

| | Using the information from Question 1, find the right end point of the confidence interval of the |
|---|---|
| 3 | mean balance μ. |

| Answer Question-3 | This is a Numerical-Answer Type Question | |
|----------------------|--|--|
| | REP = | |
| Points | 5.00 | |

Question-
4The length of a certain species of animal has a distribution with mean μ and standard deviation $\sigma =$
13.5. To estimate the mean μ of a herd, you have collected a sample of size 87 and the sample mean
 \underline{x} was found to be 68 inches.
In this question and the next two, we compute a 96 percent confidence interval for the mean length

 μ of the herd. Find the margin of error at a 96 percent confidence level.

| Answer Question-4 | This is a Numerical-Answer Type Question | |
|----------------------|--|--|
| | MOE = | |
| Points | 5.00 | |

Question-
5Using the information from Question 4, find the left end point of the confidence interval of mean
length μ of the herd.

| Answer | This is a Numerical-Answer Type Question | |
|------------|--|--|
| Question-5 | LEP = | |
| Points | 5.00 | |

Question-Using the information from Question 4, find the right end point of the confidence level of mean length μ of the herd.

| Answer Question-6 | This is a Numerical-Answer Type Question | |
|----------------------|--|--|
| Question-0 | REP = | |
| Points | 5.00 | |

Question-
7The time X taken for a KU student to drive to the campus has distribution with mean μ minutes and
and standard deviation $\sigma = 7.5$ minutes. To estimate the mean time μ , a sample of size 116 was
collected and the sample mean \underline{x} was found to be 22 minutes.
In this question and the next two, we compute a 98 percent confidence interval for the mean time μ .
Find the margin of error at a 98 percent level of confidence.

| Answer Question-7 | This is a Numerical-Answer Type Question | |
|----------------------|--|--|
| | MOE = | |
| Points | 5.00 | |

Question-
8Using the information from Question 7, find the left end point of the confidence interval of the
mean time μ .

Answer This is a Numerical-Answer Type Question

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| Question-8 | LEP = | |
|------------|-------|--|
| Points | 5.00 | |

| | Using the information from Question 7, find the right end point of the confidence level of the mean |
|---|---|
| 9 | time μ. |

| Answer | This is a Numerical-Answer Type Question |
|------------|--|
| Question-9 | REP = |
| Points | 5.00 |

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