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| Ms. Lisa Monnin is the budget director for Nexus Media, Inc. She would like to compare the daily travel expenses for the sales staff and the audit staff. She collected the following sample information. |

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| --- | --- | --- | --- | --- | --- | --- | --- |
|   Sales ( $ ) | 129 | 135 | 148 | 160 | 135 | 144 |   |
|   Audit  ( $ ) | 125 | 110 | 132 | 134 | 142 | 123 | 133 |

Use the above data to answer the question

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| At the 0.05 significance level, can she conclude that the mean daily expenses are greater for the sales staff than the audit staff? |

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| **(1)** | State the decision rule. **(Round your answer to 3 decimal places.)** |

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| --- | --- |
|   Reject *H*0 if *t* > |   |

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| --- | --- |
| **(2)** | Compute the pooled estimate of the population variance. **(Round your answer to 2 decimal places.)** |

|  |  |
| --- | --- |
|   Pooled variance |   |

|  |  |
| --- | --- |
| **(3)** | Compute the test statistic. **(Round your answer to 3 decimal places.)** |

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| --- | --- |
|   Value of the test statistic |   |

|  |  |
| --- | --- |
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Problem Number 2

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| Bob Nale is the owner of Nale's Texaco GasTown. Bob would like to estimate the mean number of gallons of gasoline sold to his customers. Assume the number of gallons sold follows the normal distribution with a standard deviation of 3 gallons. From his records, he selects a random sample of 52 sales and finds the mean number of gallons sold is 8.05. **(Round your answers to 2 decimal places.)** |

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| **(a)** The point estimate of the population mean is  |

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| **(b)** The 99 percent confidence interval for the population mean is between and     . |