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| **1.** (TCO 6) In the standard normal distribution, the variance is always (Points : 3)        0       1       2       none of these |



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| **2.** (TCO 6) The area under the standard normal curve is (Points : 3)        0       1       2       none of these |



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| **3.** (TCO 6) If John gets an 80 on a physics test where the mean is 85 and the standard deviation is 3, where does he stand in relation to his classmates? (Points : 3)        He is in the top 5%.       He is in the top 10%.       He is in the bottom 5%.       He is the bottom 1%. |



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| **4.** (TCO 6) In a normal distribution with mu = 25 and sigma = 6, what number corresponds to z = 3? (Points : 3)        40       43       46       none of these |



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| **5.** (TCO 6) Let’s assume you have taken 100 samples of size 49 each from a normally distributed population. Calculate the standard deviation of the sample means if the population’s variance is 16. (Points : 3)        0.571       0.429       0.327       0.107 |



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| **6.** (TCO 6) The area to the left of ‘z’ is 0.9192. What z-score corresponds to this area? (Points : 3)        1.49       -1.49       1.40       none of these |



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| **7.** (TCO 6) Find P(9 < x < 15) when mu = 12 and sigma = 2. (Points : 3)        0.9332       0.0668       0.8664       0.1336 |



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| **8.** (TCO 7) What is the critical z-value that corresponds to a confidence level of 92%? (Points : 3)        approximately 1.48       approximately 1.55       approximately 1.75       none of these |



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| **9.** (TCO 7) Compute the population mean margin of error for a 99% confidence interval when sigma is 4 and the sample size is 36. (Points : 3)        +/- 1.3066…       +/- 1.0966...       +/- 1.7166...       none of these |



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| **10.** (TCO 7) A standard IQ test has a mean of 98 and a standard deviation of 16. We want to be 90% certain that we are within 8 IQ points of the true mean. Determine the sample size. (Points : 3)        27       11       10       none of these |



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| **11.** (TCO 7) A private medical clinic wants to estimate the true mean annual income of its patients. The clinic needs to be within $200 of the true mean. The clinic estimates that the true population standard deviation is around $1,300. If the confidence level is 95%, find the required sample size in order to meet the desired accuracy. (Points : 6)        205       163       200       150 |



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| **12.** (TCO 7) An auditor wants to estimate what proportion of a bank’s commercial loan files are incomplete. The auditor wants to be within 7% of the true proportion when using a 95% confidence level. How many files must the auditor sample? No estimate of the proportion is available, so use 0.5 for the population proportion. (Points : 6)        196       150       200       180 |

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| **1.** (TCO 7) Interpret a 90% confidence interval of (4.355, 4.445) for a population mean. (Points : 6)               |

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| **2.** (TCO 7) A nursing school wants to estimate the true mean annual income of its alumni. It randomly samples 200 of its alumni. The mean annual income was $55,200 with a standard deviation of $1,500. Find a 95% confidence interval for the true mean annual income of the nursing school alumni. Write a statement about the confidence level and the interval you find. (Points : 6)               |

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| **3.** (TCO 7) An auditor wants to estimate what proportion of a bank’s commercial loan files are incomplete. The auditor randomly samples 100 files and finds 9 are incomplete. Using a 95% confidence interval, estimate the true proportion of incomplete files for ALL the bank’s commercial loans. Write a statement about the confidence level and the interval you find. (Points : 6)               |

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