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## Statistics MCQs – Estimation Part 4

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61. In developing a 95% confidence interval estimate for a population mean, the interval estimate was (63.54; 68.12) . What was the sample mean?

- a. 66.15
- b. 65.83
- c. 65.35
- d. 67.01
- e. 66.87

Answer: B

62. In developing a 95% confidence interval estimate for a population mean, the interval estimate was (62.15; 68.55) . What was the sample mean?

- a. 66.15
- b. 65.83
- c. 65.35
- d. 67.01
- e. 66.87

Answer: C

63. In developing a 95% confidence interval estimate for a population mean, the interval estimate was (64.78; 69.23) . What was the sample mean?

- a. 66.15
- b. 65.83
- c. 65.35
- d. 67.01
- e. 66.87

Answer: D

64. In developing a 95% confidence interval estimate for a population mean, the interval estimate was (65.33; 68.41) . What was the sample mean?

- a. 66.15

- b. 65.83
- c. 65.35
- d. 67.01
- e. 66.87

Answer: E

65. In developing a 95% confidence interval estimate for a population mean, the interval estimate was (62.84; 69.46) . Given a sample size of 100, what was the population standard deviation?

- a. 16.89
- b. 11.68
- c. 16.33
- d. 11.35
- e. 7.86

Answer: A

66. In developing a 95% confidence interval estimate for a population mean, the interval estimate was (63.54; 68.12) . Given a sample size of 100, what was the population standard deviation?

- a. 16.89
- b. 11.68
- c. 16.33
- d. 11.35
- e. 7.86

Answer: B

67. In developing a 95% confidence interval estimate for a population mean, the interval estimate was (62.15; 68.55) . Given a sample size of 100, what was the population standard deviation?

- a. 16.89
- b. 11.68
- c. 16.33
- d. 11.35
- e. 7.86

Answer: C

68. In developing a 95% confidence interval estimate for a population mean, the interval estimate was (64.78; 69.23) . Given a sample size of 100, what was the population standard deviation?

- a. 16.89

- b. 11.68
- c. 16.33
- d. 11.35
- e. 7.86

Answer: D

69. In developing a 95% confidence interval estimate for a population mean, the interval estimate was (65.33; 68.41). Given a sample size of 100, what was the population standard deviation?

- a. 16.89
- b. 11.68
- c. 16.33
- d. 11.35
- e. 7.86

Answer: E

70. In developing an interval estimate for a population mean, the population standard deviation was assumed to be 10. The interval estimate was  $50.92 \pm 2.14$ . Had the population standard deviation been 20, what would the interval estimate be?

- a.  $60.92 \pm 2.14$
- b.  $50.92 \pm 12.14$
- c.  $101.84 \pm 4.28$
- d.  $101.94 \pm 12.14$
- e.  $50.92 \pm 4.28$

Answer: E

71. In developing an interval estimate for a population mean, the population standard deviation was assumed to be 5. The interval estimate was  $50.92 \pm 2.80$ . Had the population standard deviation been 10, what would the interval estimate be?

- a.  $60.92 \pm 2.14$
- b.  $50.92 \pm 5.60$
- c.  $101.84 \pm 4.28$
- d.  $101.94 \pm 12.14$
- e.  $50.92 \pm 4.28$

Answer: B

72. In developing a confidence interval for a population mean, a sample of 50 observations was used. The confidence interval was  $19.76 \pm 1.32$ . Had the sample size been 200 instead of 50, what would the interval estimate have been?

- a.  $19.76 \pm 0.66$

- b.  $19.76 \pm 0.33$
- c.  $19.76 \pm 2.64$
- d.  $19.76 \pm 5.28$
- e.  $39.52 \pm 1.32$

Answer: A

73. A student conducted a study and reported that the 95% confidence interval for the population mean was (46; 54) . He was sure that the population standard deviation was 16. What was the sample size (rounded up to the nearest whole number) used to calculate this confidence interval?

- a. 62
- b. 97
- c. 110
- d. 30
- e. 40

Answer: A

74. A student conducted a study and reported that the 95% confidence interval for the population mean was (46; 54) . He was sure that the population standard deviation was 20. What was the sample size (rounded up to the nearest whole number) used to calculate this confidence interval?

- a. 62
- b. 97
- c. 110
- d. 30
- e. 40

Answer: B

75. A student conducted a study and reported that the 95% confidence interval for the population mean was (46; 52) . He was sure that the population standard deviation was 16. What was the sample size (rounded up to the nearest whole number) used to calculate this confidence interval?

- a. 62
- b. 97
- c. 110
- d. 30
- e. 40

Answer: C

76. A student conducted a study and reported that the 95% confidence interval for the population mean was (46; 54) . He was sure that the population standard deviation was 11. What was the sample size (rounded up to the nearest whole number) used to calculate this confidence interval?

- a. 62
- b. 97
- c. 110
- d. 30
- e. 40

Answer: D

77. A student conducted a study and reported that the 95% confidence interval for the population mean was (46; 56) . He was sure that the population standard deviation was 16. What was the sample size (rounded up to the nearest whole number) used to calculate this confidence interval?

- a. 62
- b. 97
- c. 110
- d. 30
- e. 40

Answer: E

78. Sand is packed into bags which are then weighed on scales. It is known that if full bags of sand are intended to weigh  $\mu$  kg, then the weight recorded by the scales will be normally distributed with a mean  $\mu$  kg and a standard deviation of 0.36kg. A particular bag of sand was weighed four times and the weight recorded each time was different. The sample mean weight was recorded as 34.7kg. What is the total width of a 95% confidence interval for the true weight of the full bag of sand?

- a. 0.71kg
- b. 0.36kg
- c. 0.98kg
- d. 0.45kg
- e. 0.90kg

Answer: A

79. Sand is packed into bags which are then weighed on scales. It is known that if full bags of sand are intended to weigh  $\mu$  kg, then the weight recorded by the scales will be normally distributed with a mean  $\mu$  kg and a standard deviation of 0.36kg. A particular bag of sand was weighed four times and the weight recorded each time was different. The sample mean

weight was recorded as 36.2kg. What is the total width of a 95% confidence interval for the true weight of the full bag of sand?

- a. 0.71kg
- b. 0.36kg
- c. 0.98kg
- d. 0.45kg
- e. 0.90kg

Answer: A

80. Sand is packed into bags which are then weighed on scales. It is known that if full bags of sand are intended to weigh  $\mu$  kg, then the weight recorded by the scales will be normally distributed with a mean  $\mu$  kg and a standard deviation of 0.5kg. A particular bag of sand was weighed four times and the weight recorded each time was different. The sample mean weight was recorded as 34.7kg. What is the total width of a 95% confidence interval for the true weight of the full bag of sand?

- a. 0.71kg
- b. 0.36kg
- c. 0.98kg
- d. 0.45kg
- e. 0.90kg

Answer: C