

**1. Sitting Height** A student of the author measured the sitting heights of 36 male classmate friends, and she obtained a mean of 92.8 cm. The population of males has sitting heights with a mean of 91.4 cm and a standard deviation of 3.6 cm (based on anthropometric survey data from Gordon, Churchill, et al.). Use a 0.05 significance level to test the claim that males at her college have a mean sitting height different from 91.4 cm. Is there anything about the sample data suggesting that the methods of this section should not be used?

**2. Cans of Coke** A simple random sample of 36 cans of regular Coke has a mean volume of 12.19 oz (based on Data Set 17 in Appendix B). Assume that the standard deviation of all cans of regular Coke is 0.11 oz. Use a 0.01 significance level to test the claim that cans of regular Coke have volumes with a mean of 12 oz, as stated on the label. If there is a difference, is it substantial?

**3. Garbage** The totals of the individual weights of garbage discarded by 62 households in one week have a mean of 27.443 lb (based on Data Set 22 in Appendix B). Assume that the standard deviation of the weights is 12.458 lb. Use a 0.05 significance level to test the claim that the population of households has a mean less than 30 lb, which is the maximum amount that can be handled by the current waste removal system. Is there any cause for concern?

**4. FICO Credit Scores** A simple random sample of FICO credit rating scores is obtained, and the scores are listed below. As of this writing, the mean FICO score was reported to be 678. Assuming the standard deviation of all FICO scores is known to be 58.3, use a 0.05 significance level to test the claim that these sample FICO scores come from a population with a mean equal to 678.

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