Answer on Question #44243 – Math - Statistics and Probability

Problem.

9.19: The Crown Bottling Company has just installed a new bottling process that will fill 16-ounce bottles of the popular Crown Classic Cola soft drink. Both overfilling and underfilling bottles are undesirable: Underfilling leads to customer complaints and overfilling costs the company considerable money. In order to verify that the filler is set up correctly, the company wishes to see whether the mean bottle fill, μ, is close to the target fill of 16 ounces. To this end, a random sample of 36 filled bottles is selected from the output of a test filler run. If the sample results cast a substantial amount of doubt on the hypothesis that the mean bottle fill is the desired 16 ounces, then the filler's initial setup will be readjusted.

a: The bottling company wants to set up a hypothesis test so that the filler will be readjusted if the null hypothesis is rejected. Set up the null and alternative hypotheses for this hypothesis test.

Solution.

The null hypothesis $H_0: \mu = 16$; the alternative hypotheses $H_a: \mu \neq 16$.