p8133_probset_jsg2145

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9/24/2020

Problem 1

Given:

H_0 = 0, no change H_1 = -10 mm/dL variance = 20 mm/dL

The power and type I error rate are needed to calculate the sample size.

We assume that the variable of interest is normally distributed.

We assume that the change in LDL is due to the medication and not some outside factor.

n =

$$\frac{2(z_\alpha \ + \ z_{1-\beta})^2(\sigma^2)}{\Delta^2}$$

Using type I error rate of 0.05 and power of 0.8.

n = 3.1396

The minimum sample size required is 4 in each group.