

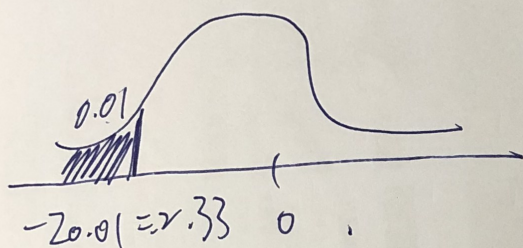
T3.17.13.

(1) $H_0: \mu \geq 70, H_1: \mu < 70$

(2) $\alpha = 0.01$

(3) 棄卻域 $C = \{Z < -z_{0.01}\} = \{Z < -2.33\}$

(4) $Z = \frac{\bar{x} - \mu_0}{\frac{s}{\sqrt{n}}} = \frac{68 - 70}{\frac{6}{\sqrt{36}}} = -2.$



根據樣本的结果，我們不棄卻虛無假設

考慮棄卻域 $C = \{Z < -2.33\}$
 $= \left\{ \frac{\bar{x} - 70}{\frac{6}{\sqrt{36}}} < -2.33 \right\}$
 $= \{ \bar{x} < 67.67 \}$

當 $\mu = 67$ 時，我們可得

檢定力 = $P(\text{棄卻虛無假設} \mid \text{對立假設為真})$

$= P(\bar{x} < 67.67 \mid \mu = 67)$
 $= P\left(\frac{\bar{x} - 67}{\frac{6}{\sqrt{36}}} < \frac{67.67 - 67}{\frac{6}{\sqrt{36}}}\right)$

$= P(Z < 0.67)$

$= 0.7486.$