例9.3

$H_0: \mu = 30$

$H_1: \mu \neq 30$

$\alpha = 0.05$, $\frac{\alpha}{2} = 0.025$

業者宣稱有誤

$|Z| > Z_{0.025} = |Z| > 1.96$

$$Z = \frac{\bar{x} - \mu_0}{\frac{s}{\sqrt{n}}} = \frac{30.563 - 30}{\frac{2.354}{\sqrt{64}}} = 1.913$$

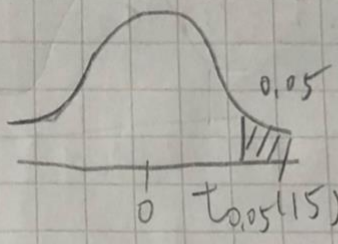
例9.5

$H_0: \mu \leq 55$

$H_1: \mu > 55$

$\alpha = 0.05$, $\frac{\alpha}{2} = 0.025$

$T > t_{0.05}(15) = T > 1.753$



$$T = \frac{\bar{x} - \mu_0}{\frac{s}{\sqrt{n}}} = \frac{59.312 - 55}{\frac{13.189}{\sqrt{16}}} = 1.308$$

p-值 $= P(T > 1.308)$

$\approx P(T > 1.31)$

p-值在 $0.1 \sim 0.25$, p-值 > 0.05

不拒絕H_0虛無假設，

今年學生統計學上表現

並沒有優於去年