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7.3 Sol: (1) $H_0: \mu = 30$, $H_1: \mu \neq 30$

(2) $\alpha = 0.05$

(3) 棄卻域 $C = \{|Z| > z_{0.025}\} = \{|Z| > 1.96\}$

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

7.4 求例7.3的 p-值

p-值 $= 2P(Z > 1.913)$

$\cong 2P(Z > 1.91)$

$= 2 \times 0.0281$

$= 0.0562 > \alpha$

所以，我們不棄卻虛無假設

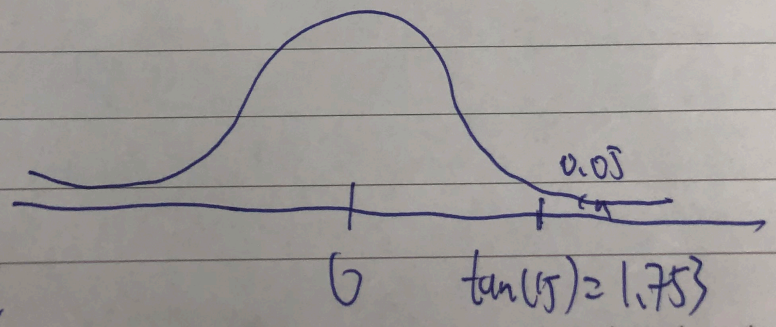
7.5 sol: $n = 16$，為小樣本且母體標準差 $\sigma$ 未知，因此，對母體平均採取 t 檢定，

(1) $H_0: \mu \leq 55$, $H_1: \mu > 55$

(2) $\alpha = 0.05$

(3) 棄卻域 $C = \{T > t_{0.05}(15)\} = \{T > 1.753\}$

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



CHAPTER 7
假設檢定

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7.6 $H_0 = \mu_1 - \mu_2 = 0$

$\mu_1 - \mu_2 < 0$

$\alpha = 0.05$

棄域 $C = \{z < -z_\alpha\} = \{z < -1.645\}$

檢定 $z = \frac{\bar{x} - \bar{y}}{\sqrt{\frac{\sigma_1^2}{n} + \frac{\sigma_2^2}{m}}}$

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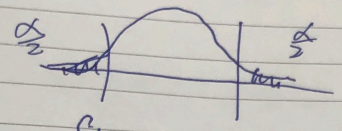
☆ $b_{\bar{x}} = \frac{b}{\sqrt{n}}$

计P值




临界值1　临界值2

7.7 sol: $H_0: p_1 - p_2 = 0$, $H_1: p_1 - p_2 \neq 0$

(2) $\alpha = 0.05$

(3) 拒绝域 $C = \{|T| > t_{\frac{\alpha}{2}}(n_1+n_2-2)\}$

$= \{|T| > t_{0.025}(16)\}$

$= \{|T| > t_{0.025}(16)\}$

$= \{|T| > 2.120\}$

(4) $S_p = \sqrt{\frac{9\times 0.653^2 + 7\times 0.627^2}{10+8-2}}$, $T = \frac{7.728 - 7.546}{0.642\sqrt{\frac{1}{10}+\frac{1}{8}}} = 0.598$