助教課

6、$\bar{x} = 4.65$　$S = 1.26$

(1) $n = 40$　$\alpha = 0.05$

$H_0 : u = 4.3$

$H_1 : u \neq 4.3$

$Z_{0.025} = 1.96$

$$\frac{4.65 - 4.3}{\frac{1.26}{\sqrt{40}}} = 1.757$$

不拒絕 H_0 #

(2) $n = 80$　$\alpha = 0.05$

$H_0 : u = 4.3$

$H_1 : u \neq 4.3$

$Z_{0.025} = 1.96$

$$\frac{4.65 - 4.3}{\frac{1.26}{\sqrt{80}}} = 2.485$$

拒絕 H_0 #

7.

$H_0: \mu_1 = \mu_2$

$H_1: \mu_1 \neq \mu_2$

$z_{0.025} = 1.96$

$$\frac{(\bar{x}-\bar{y})-0}{\sqrt{\dfrac{s_1^2}{n_1}+\dfrac{s_2^2}{n_2}}} = \frac{38.3-40.1}{\sqrt{\dfrac{40}{100}+\dfrac{30}{80}}} = 2.045$$

拒绝 H_0 #

8.

$H_0: \mu_1 = \mu_2$

$H_1: \mu_1 \neq \mu_2$

$$\frac{(\bar{x}-\bar{y})-0}{S_P \sqrt{\dfrac{1}{n_1}+\dfrac{1}{n_2}}}$$

$$S_P = \sqrt{\frac{(n_1-1)s_1^2+(n_2-1)s_2^2}{n_1+n_2-2}} = \sqrt{\frac{63\times 32^2+80\times 36^2}{143}} = 3.43$$

$$\frac{32-34}{3.43\sqrt{\dfrac{1}{64}+\dfrac{1}{81}}} = 3.486$$

拒绝 H_0 #

9、$t_{0.025}(18) = 21.01$

$H_0: u_1 = u_2$

$H_1: u_1 \neq u_2$

$$\frac{(\bar{x} - \bar{y})}{sp(\frac{1}{n_1} + \frac{1}{n_2})} = \frac{82.6 - 84.4}{5.693\sqrt{\frac{1}{10} + \frac{1}{10}}} = 0.993$$

$sp = 5.693$

不拒绝 H_0 #

10~

$Z_{0.05} = 1.645$

$Z = \dfrac{\hat{P} - P_0}{\sqrt{\dfrac{P_0(1-P_0)}{n}}}$

$\begin{cases} H_0: P \geq 0.4 \\ H_1: P < 0.4 \end{cases}$

$$= \frac{0.45 - 0.4}{\sqrt{\frac{0.4 \times 0.6}{100}}} = 1.021$$

不拒绝 H_0 #