Memo No.

Date. / /

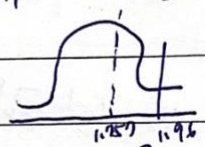
6.

$\bar{x} = 4.65 \quad S = 1.26$

(1) $n = 40 \quad \alpha = 0.05$

$H_0 : M = 4.3 \quad H_1 : M \neq 4.3$

$Z_{0.025} = 1.96$



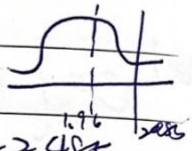
$$\frac{4.65 - 4.3}{\frac{1.26}{\sqrt{40}}} = 1.757$$

不拒絕

(2) $n = 80 \quad \alpha = 0.05$

$H_0 : M = 4.3 \quad H_1 : M \neq 4.3$

$Z_{0.025} = 1.96$



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

拒絕 H_0

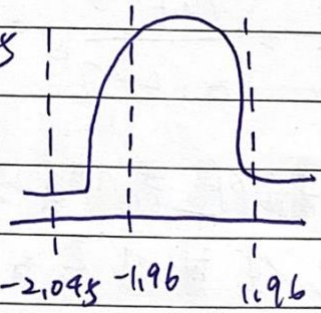
7.

$H_0 : M_1 = M_2 \quad H_1 : M_1 \neq M_2$

$Z_{0.025} = 1.96$

$$\frac{(\bar{X} - \bar{Y}) - 0}{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2}} = \frac{3.813 - 4.101}{\sqrt{\frac{40}{100} + \frac{30}{80}}} = 2.045$$

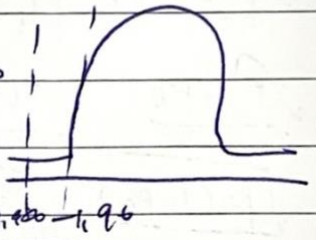
拒絕 H_0



8)

$H_0: \mu_1 = \mu_2$

$$\frac{(\bar{x}-\bar{y})-0}{S_p\sqrt{\frac{1}{n_1}+\frac{1}{n_2}}} = \frac{32-34}{3{,}430\sqrt{\frac{1}{64}+\frac{1}{81}}} = -3{,}486$$



$$S_p = \sqrt{\frac{(n_1-1)S_1^2+(n_2-1)S_2^2}{n_1+n_2-2}} = \sqrt{\frac{63\times 3{,}2^2 \times 80 \times 3{,}6^2}{143}} = 3{,}430$$

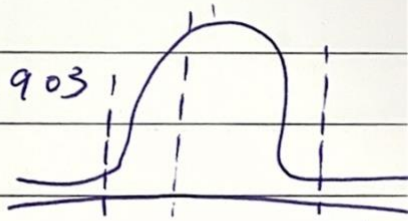
拒絕 H_0

9.

$t_{0{,}025}(18) = 2{,}101$

$H_0: \mu_1 = \mu_2 \quad H_1: \mu_1 \neq \mu_2$

$$\frac{(\bar{x}-\bar{y})-0}{S_p\sqrt{\frac{1}{n_1}+\frac{1}{n_2}}} = \frac{82{,}16-84{,}9}{5{,}693\sqrt{\frac{1}{10}+\frac{1}{10}}} = -0{,}903$$



$$S_p = \sqrt{\frac{9\times(4{,}5069)^2+9\times 6{,}165\,25^2}{18}} = 5{,}693$$

不拒絕 H_0

10.

$z_{0,05} = 1,645$

$H_0 = p \geq 0,1 \cdot 4$, $H_1 = p < 0,1 \cdot 4$

$$z = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0(1-p_0)}{n}}} = \frac{0,145 - 0,14}{\sqrt{\frac{0,14 \times 0,16}{100}}} = 1,021$$