CHAPTER 7 假設檢定

17-6

(a) $\bar{x}=4.65$ $s=1.26$

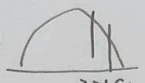
$n=40$ $\alpha=0.05$

$H_0: \mu=4.3$ $H_1: \mu\neq4.3$

$z_{0.025}=1.96$

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

接受 H_0#



(b)

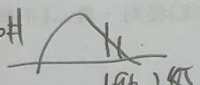
$n=80$ $\alpha=0.05$

$H_0: \mu=4.3$ $H_1: \mu\neq4.3$

$z_{0.025}=1.96$

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

拒絕 H_0#

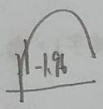


17-7

$\sigma_1=40$ $n_1=100$ $\bar{x}=38.3$

$\sigma_2=30$ $n_2=80$ $\bar{y}=40.1$

$z_{0.025}=1.96$



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

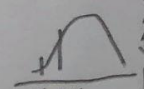
-2.045

拒絕 H_0#

17-8

$H_0: \mu_1=\mu_2$ $H_1: \mu_1\neq\mu_2$ $z_{0.025}=1.96$

$$\frac{(\bar{x}-\bar{y})-0}{sp\sqrt{\frac{1}{n_1}+\frac{1}{n_2}}}=\frac{32-34}{3.430\sqrt{\frac{1}{81}+\frac{1}{81}}}=-3.486$$



拒絕 H_0 #

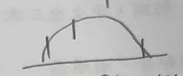
$$sp=\sqrt{\frac{(n_1-1)s_1^2+(n_2-1)s_2^2}{n_1+n_2-2}}=\sqrt{\frac{63\times3.2^2+79\times3.6^2}{143}}=3.430$$

17-9 $t_{0.025}(18)=2.101$

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

$$\frac{\bar{x}-\bar{y}-0}{sp\sqrt{\frac{1}{n_1}+\frac{1}{n_2}}}=\frac{84.9-82.6}{5.693\sqrt{\frac{1}{20}}}=0.903$$

$$sp=\frac{9\times4.526^2+9\times6.659^2}{9}=5.693$$

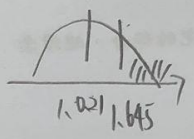


接受 H_0#

或 $H_0: P=P_{Z0.4}$ $H_1: P<0.4$

$P=0.45$ $z_{0.05}=1.645$

$$z=\frac{0.45-0.4}{\sqrt{\frac{0.4\times0.6}{100}}}=1.021$$



拒絕 H_0