

A107270041 黃 露 琳

1. $\bar{x} = 4.65$ $s = 1.26$

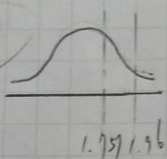
(1) $n = 40$ $\alpha = 0.05$

$H_0: \mu = 4.3$ $H_1: \mu \neq 4.3$

$z_{0.025} = 1.96$

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

不拒絕 H_0



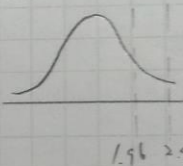
(2) $n = 80$ $\alpha = 0.05$

$H_0: \mu = 4.3$ $H_1: \mu \neq 4.3$

$z_{0.025} = 1.96$

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

拒絕 H_0

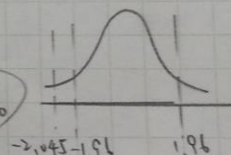


7. $H_0: \mu_1 = \mu_2$ $H_1: \mu_1 \neq \mu_2$

$z_{0.025} = 1.96$

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

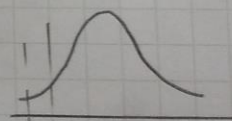
拒絕 H_0



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

$\frac{(\bar{x} - \bar{y}) - 0}{s_p \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} = \frac{22 - 34}{3.486 \sqrt{\frac{1}{42} + \frac{1}{81}}} = 3.486$

拒絕 H_0



$s_p = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}} = \sqrt{\frac{63 \times 37^2 + 80 \times 31^2}{143}} = 3.486$

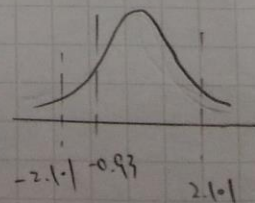
9. $t_{0.025}(18) = 2.101$

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

$\frac{(\bar{x} - \bar{y}) - 0}{s_p \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} = \frac{82.6 - 84.4}{5.693 \sqrt{\frac{1}{10} + \frac{1}{10}}} = 0.93$

$s_p = \sqrt{\frac{9 \times (4.5265)^2 + 9 \times (6.6595)^2}{18}} = 5.693$

不拒絕 H_0

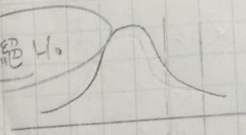


$$10. z_{0.05} = 1.645$$

$$H_0: p \geq 0.04 \quad H_1: p < 0.04$$

$$z = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0(1-p_0)}{n}}} = \frac{0.45 - 0}{\sqrt{\frac{0.4 \times 0.6}{100}}} = 1.021$$

拒絕 H_0



$$1.021 < 1.645$$

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