

$$\mu_1 - \mu_2 = \bar{x} - \bar{y} = 85 - 78 = 7$$

$$\alpha = 0.05, \frac{\alpha}{2} = 0.025, z_{0.025} = 1.645$$

$\mu_1 - \mu_2$  90% 信賴區間

$$A(0.623) = 0.34 \quad \text{查表得 } z_{0.025} = 1.645$$

$$(\bar{x} - \bar{y}) \pm z_{\frac{\alpha}{2}} \sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}$$

$$= (85 - 78) \pm 1.645 \sqrt{\frac{154}{60} + \frac{104}{60}}$$

$$= 7 \pm 1.645 \times 2.59 \Rightarrow (2.74, 11.26)$$

$$\begin{array}{cccccc} & 1 & 2 & 3 & 4 & 5 & 6 \\ \bar{x} & -7 & -6 & 4 & -4 & -3 & -5 \end{array}$$

$$1 - \alpha = 0.9$$

$\bar{x} - \bar{y}$

$$n = 7, \bar{d} = -2.43, 1 - \alpha = 0.9$$

$$t_{\frac{\alpha}{2}}(n-1) = t_{0.05}(6) = 1.943$$

$$SD = \sqrt{\frac{\sum (d_i - \bar{d})^2}{n-1}} = \sqrt{\frac{\sum d_i^2 - n \bar{d}^2}{n-1}}$$

$$= \sqrt{\frac{117 - 7 \times (-2.43)^2}{6}} = 4.58$$

$\mu_1 - \mu_2$  90% 信賴區間

$$\bar{d} \pm t_{\frac{\alpha}{2}}(n-1) \frac{SD}{\sqrt{n}} \Rightarrow (-2.43) \pm 1.943 \times \frac{4.58}{\sqrt{7}}$$

$$\Rightarrow \underline{(-5.79, 0.93)}$$