

資產編號:  
類別:

Expert Store

Point of business

企管三甲 陳敬亮 A106270043

$$9(1) \bar{x} = \frac{86}{6} = 14.33, n-1=5$$

$$\sigma^2 \text{之點估計} = \frac{(15^2 + 18^2 + 9^2 + 13^2 + 17^2 + 14^2) - 6 \times 14.33^2}{5} = \frac{1284 - 1232.1}{5} = 3.22 \#$$

$$(2) 1-\alpha=0.90, \frac{\alpha}{2}=0.05$$

$$\chi^2_{0.05}(5)=11.07, \chi^2_{1-0.05}(5)=\chi^2_{0.95}(5)=1.15$$

$$\left[ \sqrt{\frac{5 \times 10.38}{\chi^2_{0.05}(5)}}, \sqrt{\frac{5 \times 10.38}{\chi^2_{0.95}(5)}} \right] = \left( \sqrt{\frac{51.9}{11.07}}, \sqrt{\frac{51.9}{1.15}} \right) = (2.17, 6.72) \#$$

$$20. n_1=9, \bar{x}=7.67, S_1=9.27$$

$$n_2=9, \bar{y}=6.78, S_2=21.15$$

$$(1) \sigma_1^2 \neq \sigma_2^2 \quad V = \frac{\left( \frac{9.27^2}{9} + \frac{21.15^2}{9} \right)}{\left( \frac{9.27^2}{9} \right) + \left( \frac{21.15^2}{9} \right)} = 10.96 \quad \begin{aligned} &\therefore \mu_1 - \mu_2 \text{ 之 } 95\% \text{ 信賴區間} \\ &(7.67 - 6.78) \pm t_{0.025}(11) \sqrt{\frac{9.27^2}{9} + \frac{21.15^2}{9}} \\ &= 0.89 \pm 2.201 \times 7.90 = (-16.06, 17.84) \# \end{aligned}$$

$$(2) 1-\alpha=0.90$$

$$\chi^2_{\frac{\alpha}{2}}(n_1-1) = \chi^2_{0.05}(8) = 15.51 \quad \sigma_1^2 \text{ 之 } 90\% \text{ 信賴區間}$$

$$\chi^2_{1-\frac{\alpha}{2}}(n_1-1) = \chi^2_{0.95}(8) = 2.73 \quad \left( \sqrt{\frac{8 \times 9.27^2}{\chi^2_{0.05}(8)}}, \sqrt{\frac{8 \times 9.27^2}{\chi^2_{0.95}(8)}} \right) = (6.66, 15.87) \#$$

$$(3) 1-\alpha=0.90$$

$$F_{0.05}(8,8) = 3.44$$

$$F_{0.95}(8,8) = 0.29$$

$$\left[ \frac{9.27^2}{21.15^2} \times \frac{1}{3.44}, \frac{9.27^2}{21.15^2} \times \frac{1}{0.29} \right] = (0.06, 0.66) \#$$