

4107270049 查算 查表 = 甲

本章习题

$$(15 + 18 + 9 + 13 + 17 + 16) \div 6 = 14.33$$

9. (1) 
$$S = \sqrt{\frac{\sum (x_i - \bar{x})^2}{n-1}} = \sqrt{\frac{\sum x_i^2 - n\bar{x}^2}{n-1}}$$

$$= \sqrt{\frac{284 - 6 \times 14.33^2}{5}}$$

$$= \sqrt{\frac{1284 - 1237.0734}{5}} = \sqrt{\frac{46.9266}{5}} = \sqrt{9.38532} = 3.0635$$

$$15^2 = 225 \quad 18^2 = 324 \quad 9^2 = 81 \quad 13^2 = 169$$

$$17^2 = 289 \quad 16^2 = 256$$

$$225 + 324 + 81 + 169 + 289 + 256 = 1284$$

(2)  $1 - \alpha = 0.9 \quad \frac{\alpha}{2} = 0.05 \quad n-1 = 5$

$$\chi_{\frac{\alpha}{2}}^2(n-1) = \chi_{0.05}^2(5) = 11.07 \text{ (查表)}$$

$$\chi_{1-\frac{\alpha}{2}}^2(n-1) = \chi_{0.95}^2(5) = 1.15 \text{ (查表)}$$

$$\left( \sqrt{\frac{5 \times 10.38}{11.07}}, \sqrt{\frac{5 \times 10.38}{1.15}} \right) = \left( \sqrt{\frac{4.77}{11.07}}, \sqrt{\frac{45.19}{1.15}} \right) = (0.66, 19.72)$$

20. (1)  $n_1 = 9 \quad \bar{x} = 69 \div 9 = 7.67 \quad s_1 = 9.27 \quad n_2 = 9 \quad \bar{y} = 61 \div 9 = 6.78 \quad s_2 = 21.15$

$$v = \frac{\left( \frac{9.27^2}{9} + \frac{21.15^2}{9} \right)}{\left( \frac{9.27^2}{9} + \frac{21.15^2}{9} \right)} = 10.96 \approx 11$$

$$(\bar{x} - \bar{y}) \pm t_{\frac{\alpha}{2}}(v) \sqrt{\frac{s_1^2 + s_2^2}{n_1 + n_2}} = (7.67 - 6.78) \pm 0.025(11) \sqrt{\frac{9.27^2}{9} + \frac{21.15^2}{9}}$$

$$= 0.89 \pm 2.201 \times 7.70 = 0.89 \pm 16.95$$

$$(-16.06, 17.84)$$

(2)  $1 - \alpha = 0.9 \quad \chi_{\frac{\alpha}{2}}^2(n_1-1) = \chi_{0.05}^2(8) = 15.51 \text{ (查表)}, \chi_{1-\frac{\alpha}{2}}^2(n_1-1) = \chi_{0.95}^2(8) = 2.73$

$$\left( \sqrt{\frac{8 \times 9.27^2}{15.51}}, \sqrt{\frac{8 \times 9.27^2}{2.73}} \right) = \left( \sqrt{\frac{687.46}{15.51}}, \sqrt{\frac{687.46}{2.73}} \right) = (6.66, 15.89)$$

$$(n_1-1, n_2-1)$$

(3)  $1 - \alpha = 0.9 \quad F_{\frac{\alpha}{2}} = F_{0.05}(8, 8) = 3.44 \text{ (查表)}, F_{1-\frac{\alpha}{2}} = F_{0.95}(8, 8) = \frac{1}{F_{0.95}(8, 8)}$

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

$$= 0.29$$