

$$1. (1) t_{0.025}(10) = 2.228$$

$$(2) t_{0.95}(8) = -t_{0.05}(8) = -1.86$$

$$(3) \chi^2_{0.05}(12) = 21.03$$

$$(4) \chi^2_{\alpha}(15) = 7.26 \Rightarrow \alpha = 0.95$$

$$(5) \chi^2_{0.95}(10) = 3.94$$

$$(6) F_{0.05}(5, 8) = 3.69$$

$$(7) F_{0.95}(6, 7) = \frac{1}{F_{0.05}(7, 6)} = \frac{1}{4.21} = 0.238$$

$$(8) F_{\alpha}(6, 6) = 4.28 \Rightarrow \alpha = 0.05$$

$$2. e = \frac{\sigma}{\sqrt{n}} \times Z_{\frac{\alpha}{2}}$$

$$(1) \sigma = 3 \quad e = 0.5 \quad 1 - \alpha = 0.95 \quad (3) \sigma = 0.05 \quad e = 0.02$$

$$n = \left(\frac{3}{0.5} \right)^2 \times 1.96^2 = 138.3$$

$$\hat{=} 139$$

$$1 - \alpha = 0.98$$

$$n = \left(\frac{0.05}{0.02} \right)^2 \times 2.326^2 = 33.8$$

$$\hat{=} 34$$

$$(2) \sigma = 0.2 \quad e = 0.03 \quad 1 - \alpha = 0.9$$

$$n = \left(\frac{0.2}{0.03} \right)^2 \times 1.645^2 = 120.27$$

$$\hat{=} 121$$