

$$= \left( \frac{z_{\frac{\alpha}{2}}}{n} \right)^2 \times p(1-p)$$

用 p 3.

$$n=10, \bar{x}=13.63, s=6.05$$

$$n-1=9, 1-\alpha=0.98, \frac{\alpha}{2}=0.01$$

$$\bar{x} \pm t_{\frac{\alpha}{2}}(n-1) \frac{s}{\sqrt{n}} = 13.63 \pm t_{0.01}(9) \frac{6.05}{\sqrt{10}}$$

$$= 13.63 \pm 2.821 \times 1.91$$

$$= 13.63 \pm 5.39$$

$$(8.24, 19.02)$$

4.

$$(1) n=1200, \hat{p}=0.33, 1-\alpha=0.98$$

$$0.33 \pm z_{\frac{\alpha}{2}} \sqrt{\frac{\hat{p}(1-\hat{p})}{n}}$$

$$= 0.33 \pm 2.327 \times \sqrt{\frac{0.33 \times 0.67}{1200}}$$

$$= 0.33 \pm 0.3$$

$$(0.30, 0.36)$$

$$(2) n=820, x=650, \hat{p} = \frac{650}{820} = 0.79$$

$$1-\alpha=0.95, \frac{\alpha}{2}=0.025$$

$$0.79 \pm 1.96 \times \sqrt{\frac{0.79 \times 0.21}{820}}$$

$$= 0.79 \pm 1.96 \times 0.014$$

$$= 0.79 \pm 0.03$$

$$(0.76, 0.82)$$

14.

$$(1) n=15, \bar{x}=1.73, s=0.8$$

$$1-\alpha=0.95$$

$$t_{\frac{\alpha}{2}}(n-1) = t_{0.025}(14) = 2.145$$

$$1.73 \pm t_{0.025}(14) \frac{0.8}{\sqrt{15}}$$

$$= 1.73 \pm 2.145 \times \frac{0.8}{\sqrt{15}}$$

$$= 1.73 \pm 0.44$$

$$(1.29, 2.17)$$

$$(2) 1.73 \pm t_{0.10}(14) \frac{0.8}{\sqrt{15}}$$

$$= 1.73 \pm 1.345 \times \frac{0.8}{\sqrt{15}}$$

$$= 1.73 \pm 0.28$$

$$(1.45, 2.01)$$