

助教課

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)  $n=1200$   $\hat{p}=0.33$   $1-\alpha=0.98$   $\frac{\alpha}{2}=0.01$

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

$$= 0.33 \pm 0.03$$

$$= (0.30, 0.36) \#$$

(2)  $n=800$   $\bar{x}=650$   $\hat{p}=\frac{650}{800}=0.79$

$$1-\alpha=0.95$$

$$\frac{\alpha}{2}=0.025$$

$$0.79 \pm 1.96 \times \sqrt{\frac{0.79 \times 0.21}{800}}$$

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

$$= 0.79 \pm 0.03$$

$$= (0.76, 0.82) \#$$

14,  $n=15$   $\bar{x}=1.73$   $S=0.8$   $1-\alpha=0.95$   $\frac{\alpha}{2}=0.025$   
 $n-1=14$

(1)  $1.73 \pm t_{0.025}(14) \frac{0.8}{\sqrt{15}} = 1.73 \pm 2.145 \times \frac{0.8}{\sqrt{15}}$

$$= 1.73 \pm 0.44$$

$$= (1.29, 2.17) \#$$

(2)  $1.73 \pm t_{0.1}(14) \frac{0.8}{\sqrt{15}}$

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

$$= 1.73 \pm 0.28$$

$$= (1.45, 2.01) \#$$