

P.257

19. $n = 165$

$\bar{x} = 16,530$

$s = 5542$

95% & 99% C.I.s

$$\alpha = 1 - .95 \quad | \quad \alpha = 1 - .99$$

$$= .05 \quad \quad \quad = .01$$

$$\alpha/2 = .025 \quad | \quad \alpha/2 = .005$$

$$df = n - 1$$

$$= 164$$

$$\bar{x} \pm t_{\alpha/2} \frac{s}{\sqrt{n}}$$

$$16530 \pm (1.98) \frac{5542}{\sqrt{165}}$$

$$\boxed{16530 \pm 854.26} \quad 95\%$$

$$16530 \pm (2.617) \frac{5542}{\sqrt{165}}$$

$$\boxed{16530 \pm 1129.09} \quad 99\%$$

21. $n = 32$

②

$$\left. \begin{array}{l} \bar{x} = 30.5625 \\ s = 5.775 \end{array} \right\} \text{calculated from the data}$$

$$99\% \text{ C.I.} \quad \bar{x} \pm t_{\alpha/2} \frac{s}{\sqrt{n}}$$

$\alpha = .01$

$\alpha/2 = .005$

$df = 31$

$$30.5625 \pm (2.750) \frac{5.775}{\sqrt{32}}$$

$$30.5625 \pm 2.807$$

(3)

p. 268

$$62. \quad n = \left[\frac{z_{\alpha/2} S}{B} \right]^2$$

95%

$$\alpha = .05$$

$$\alpha/2 = .025$$

$$= \left[\frac{(1.96)(.02)}{.005} \right]^2$$

$$= 61.47 \rightarrow 62$$

p. 261

$$41. \quad n = 68 \quad \hat{p} = \frac{42}{68} = .6176$$

$$\hat{p} \pm z_{\alpha/2} \sqrt{\frac{\hat{p}\hat{q}}{n}}$$

99% C.I. (4)

$$\alpha = .01$$

$$\alpha/2 = .005$$

$$.6176 \pm (2.576) \sqrt{\frac{(.6176)(1-.6176)}{68}}$$

$$.6176 \pm .1518$$

$$43. \quad n = 984$$

$$\hat{p} = .6$$

95% C.I.

$$\alpha = .05$$

$$\alpha/2 = .025$$

$$.6 \pm (1.96) \sqrt{\frac{(.6)(.4)}{984}}$$

$$.6 \pm .0306$$

(5)

p. 268

$$59. \quad n = \frac{Z_{\alpha/2}^2 \hat{p} \hat{q}}{B^2}$$

90% C.I.

$$\alpha = .1$$

$$\alpha/2 = .05$$

$$= \frac{1.645^2 (.5)(.5)}{.05^2}$$

$$= 270.6 \rightarrow 271$$

(6)

$$63. \quad n = \frac{Z_{\alpha/2}^2 \hat{p} \hat{q}}{B^2}$$

$$= \frac{1.645^2 (.14)(.86)}{.05^2}$$

$$= 130.3 \rightarrow 131$$

Final exam Monday 10:15 - 12:05

1 page of notes, Calculator, ScanTron, pencil
Z & t tables

⑦

25 multiple-choice questions

Binomial, Hypergeometric, Poisson,
Uniform, Normal

Probabilities about \bar{x} , \hat{p}

Normal approx. to binomial

Conf. int. for μ or p

& sample size determination
