

李超 20160119 49

解: 由题.  $n=5$ .  $1-\alpha=0.95$ .  $\frac{\alpha}{2}=0.025$ .

$$z_{\frac{\alpha}{2}} = z_{0.025} = 1.96$$

$$P\left\{\left|\frac{\bar{x}-\mu}{\frac{s}{\sqrt{n}}}\right| \geq 1.96\right\} = 0.05$$

$$\therefore P\left(\bar{x} - 1.96 \times \frac{s}{\sqrt{n}} \leq \mu \leq \bar{x} + 1.96 \times \frac{s}{\sqrt{n}}\right) = 0.95$$

$$\bar{x} = \frac{1}{5} = 0.2$$

$$\therefore s^2 = \frac{(0.2)^2 + (0.4)^2 + (0.2)^2 + (0.2)^2 + (0.8)^2}{5} = 0.16$$

$$\therefore P\left(0.2 - 1.96 \times \frac{0.16}{\sqrt{5}} \leq \mu \leq 0.2 + 1.96 \times \frac{0.16}{\sqrt{5}}\right) = 0.95$$

$$\therefore \text{置信下限时: } 0.2 - 1.96 \times \frac{0.16}{\sqrt{5}} = 0.05975$$

$$\text{上限: } 0.2 + 1.96 \times \frac{0.16}{\sqrt{5}} = 0.3403$$

$$\frac{2}{3} \times 0.3403 \times 44 = 14.971$$

$$\frac{1}{3} \times 0.05975 \times 44 = 2.2029$$

$\therefore 2 \sim 15$  人